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Railway Age

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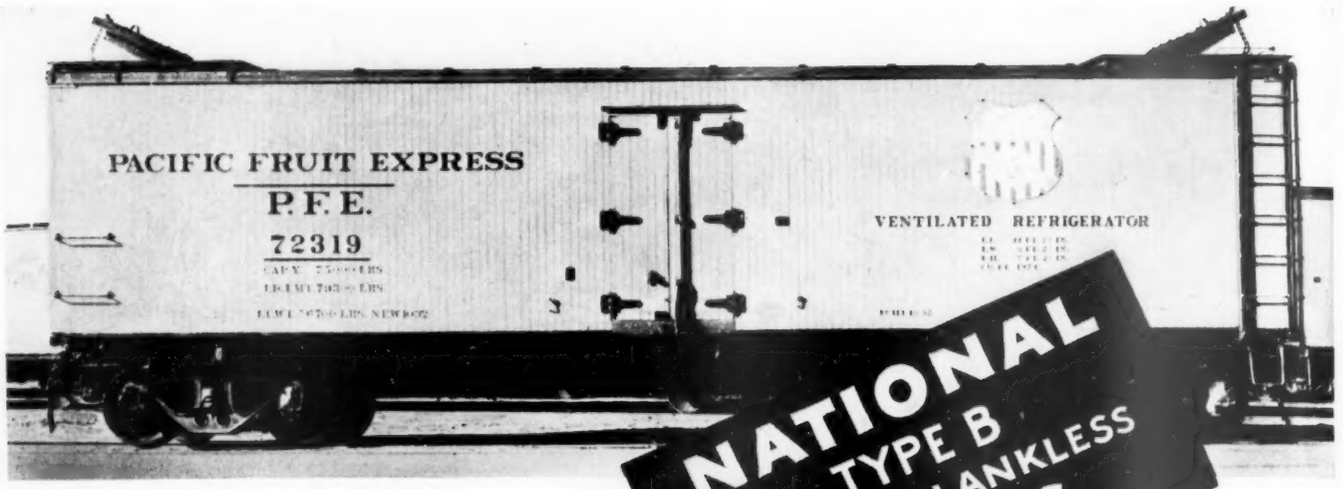

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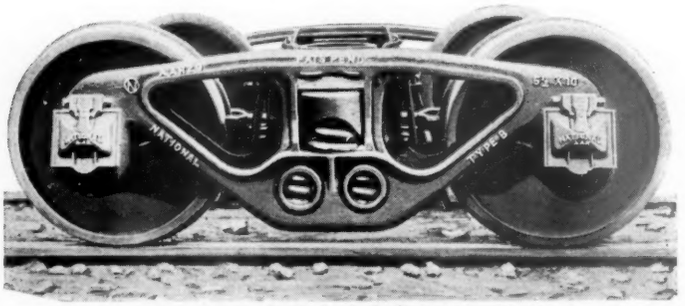

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The Week at a Glance

CARLOADINGS: Freight car loadings in the February 6 week totaled 675 thousand. This was 8½ per cent better than in the same week last year—and, of course, the flood made the total less than it otherwise would have been.

●

DISPATCHERS' 6 HOURS: A separate bill for the 6-hour day for dispatchers has been introduced in Congress by Senator Neely. This bill differs from the 6-hour bill covering all other employees, introduced by Congressman Crosser, in that Mr. Crosser's bill does not limit hours, but jacks up the pay so that 6 hours' work would bring what 8 hours now does. Under Mr. Neely's bill, the dispatchers would work 6 hours and call it a day.

●

R. R. RESEARCH: Railroads are fully alert in the *application* of the innovations of scientific research to their business; theirs is not the function of developing new *products,* but rather that of *improving service.* Such is the penetrating analysis by L. W. Wallace, equipment research director of the A.A.R., of the problem of research as it affects the railways, which is published herein. The substance of this paper is ammunition which every railroader ought to have to silence the unreasoning critics who complain that the railways are remiss in research activity.

●

MODEL SMALL STATIONS: Every substantial real estate sub-division has a model modern home, in which the prospective home owner is shown how to make his dollar do the utmost in providing comfort and beauty. The Milwaukee has applied this idea to station buildings. Described herein are two of its standard designs of small station structures which are this road's conception of the most for its money in attractiveness, low first cost and maintenance expense, and the optimum utilization of available space.

●

RECORD RELIEF JOB: The greatest mobilization of transport for rescue and relief ever known is how President Pelley of A.A.R. correctly characterizes the work of the railroads in the recent Ohio floods. In a summary elsewhere herein some of the railroads' rescue jobs are enumerated—not the least of which was evacuating 200,000 or more refugees. Corporations have been called "soulless," but the men who run the roads—from directors and executives on down the line—don't seem to act that way when trouble comes to their neighbors.

●

GRAPEFRUIT GRIEF: The traffic officers have respectfully declined the request of the grapefruit trade that rates on the fruit from Florida be trimmed to half the maximum permitted by the I.C.C. (present rates are already shaded 20 cents per 100 lb. below the "reasonable" level). There is, it appears, too large a supply of grapefruit to make the year's crop profitable, the bountiful supply having depressed the price. The theory seems to be that the roads should do their bit to make this year's crop pay, so that next year growers will be encouraged to raise even more grapefruit and the railroads will then be given an opportunity to make a still larger contribution in rate reductions. While present railroad rates are less than "reasonable," the F.T.C. a couple of weeks ago found metropolitan *trucking* rates on perishables to be a great deal more than reasonable—in fact, a "racket." Why not take up the slack where there is a lot of it?

●

R. R.s CONTRACT CARRIERS: In Canada, the Minister of Railways has included in his bill for extending commission control over all carriers a provision *permitting railways to contract with shippers for the transportation of all their freight at rates which depart from regular tariffs.* Such rates would compare with the "agreed charges" which are in effect in Britain. Said Minister Howe: The railway today is expected by many industries to be a standby. They ship 100 per cent by truck or boat in the summer and return to the railways for the winter haul If they want to use trucks, then let's take up the railway. If they want to contract with the railway, let them do it.

●

CROSSING CASUALTIES CLIMB: In November, 1936, more people were killed in grade crossing accidents than in any month since January, 1929. In all, 243 persons lost their lives in such accidents last November—an increase of approximately 40 per cent over November, 1935.

●

"LITTLE FELLOW" NEEDS R. R.s: By subsidizing water transport and underregulating and undertaxing private trucks, the competition of the "little fellow" with the large corporation is rendered increasingly difficult—so the leading editorial in this issue points out. The "little fellow" hasn't the price of a fleet of trucks or barges, but has to depend upon common carrier service. If common carriers are discriminated against—as they undeniably are—then the "little fellow" suffers in trying to hold his own.

●

ADVERTISING OUTLAY: "Statistics of Railways," the annual volume issued by the I.C.C., has just appeared with its record of 1935 performance. Included in this issue is a new table, recapitulating advertising expenditures by class of service. The table reveals that the roads parted with 9 millions for this purpose in 1935 and that more than half the outlay was made by the Western lines.

●

HOW TO GET CROSSING AID: The Secretary of Agriculture has just come out with the terms under which states can get a piece of the 50 millions which Uncle Sam has set aside for grade crossing elimination. Initiative for selecting projects for improvement lies with state highway departments.

LARGEST STREAMLINED LOCOS: Construction details and some striking illustrations will be found herein of the Southern Pacific's huge and resplendent new streamlined 4-8-4's, which pull the "Daylights" out of California's two largest cities, at faster speeds. The engines have liveries to match the cars.

●

TRUCK TONNAGE INDEX: At last some information is available on trends in truck traffic. The American Trucking Associations have averaged the tons carried per month in 1936 by a number of representative truckers and called that average 100. In January, 1937, these same concerns handled 2.2 per cent more than their 1936 monthly average.

●

FORD'S CANAL BOATS: The Ford Motor Company has ordered two more 2,200-ton Diesel-powered canal boats to enable it to take advantage of the free waterway generously provided by New York State's indulgent taxpayers. The boats will ply the waters from Dearborn, Mich., to Edgewater, N. J., and other Ford plants along the Atlantic seaboard.

●

CREDITORS OKAY C. & E. I. PLAN: Representative creditors of the C. & E. I. have agreed with management and other interests as to a plan of reorganization for the property. Under the plan, which must have I. C. C. approval, the initial directorate would have 5 directors each representing creditor interests and equity holders, while the R. F. C. would name 3.

●

C. P. R. MOVIE: The story of the building of the Canadian Pacific has been filmed by Gaumont British into a regular feature motion picture. This is not an "educational" film, but is complete with a love story and all the trappings which surround photoplays which the public is glad to pay to see; in spite of which, however—so say the critics—the historical detail is preserved with complete accuracy.

●

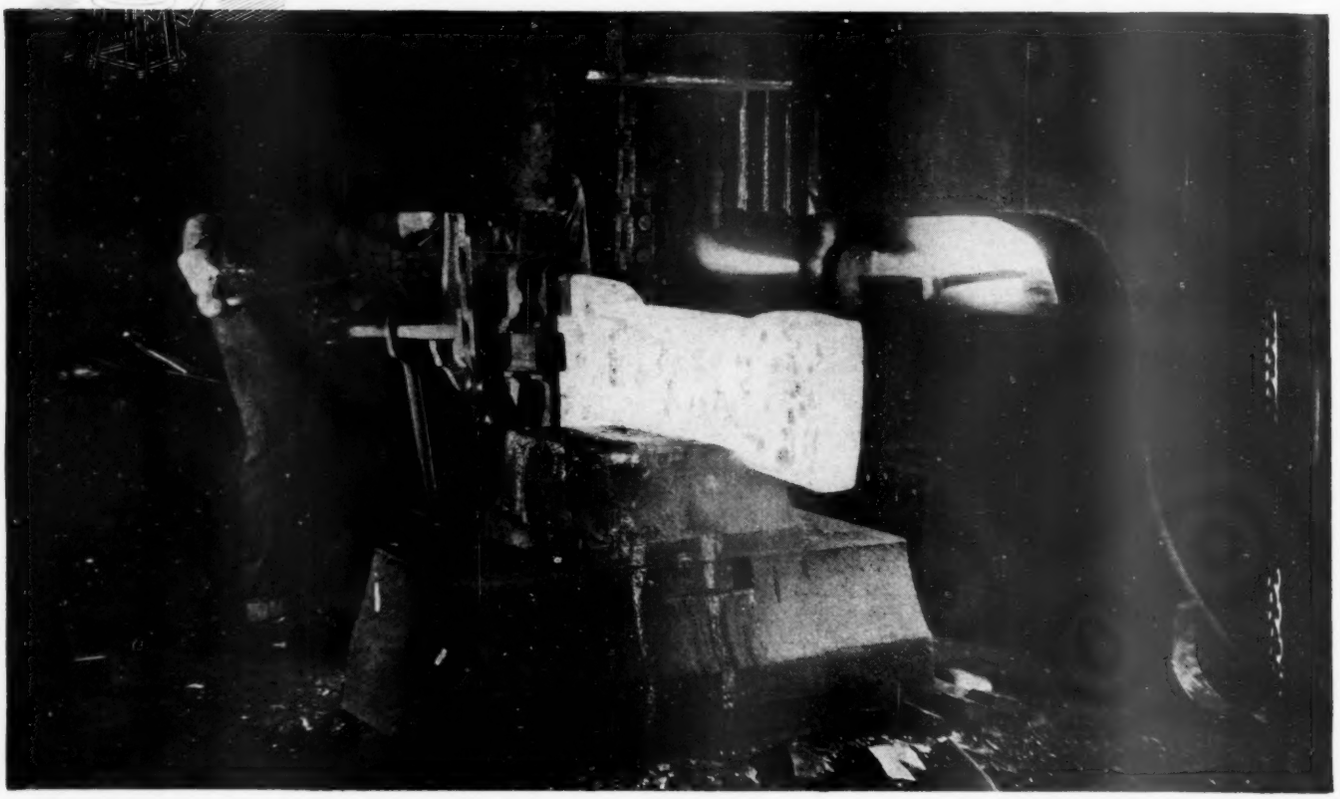
SOUTHERN RATES PROBE: Southern shippers and utility commissioners who have been at the wailing wall over the class rate structure for a long, long time have at last aroused the sympathetic attention of the I. C. C.—and the commission has announced an investigation of the rates in the South, both intraterritorial and between Southern and Official territory.

●

EDUCATOR FRANK FELL: The chairman of the accounting division of the A. A. R. (F. J. Fell, Jr., vice-president, P. R. R.) is providing post-graduate educational opportunities for railway accounting officers. At a recent regional meeting in New York a budget expert from a large industry discoursed on budgeting problems (Mr. Fell having made the arrangements). In Washington next month a whole bevy of government talent in the higher reaches of accounting and statistics has been lined up to address another regional meeting.

DRIVING RODS

are a weight problem



Driving rods are as essential as the wheels they turn but their weight creates a counterbalance problem and is an important factor in train speeds. » » » This element, however, is minimized by use of the higher strength, lighter section that Agathon* Alloy Steel provides. » » » Agathon Alloy Steel for reciprocating and revolving parts permits designing for higher train speeds and increases dependability of performance and safety of operation. » » » Whatever the service, roundhouse, shop or rolling stock, there is a Republic steel, either alloy or plain carbon, to meet the needs. Our metallurgists are at your service. Address Department RG. » » »

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RAILWAY AGE

Common Carriers Necessary To Survival of "Little Fellow"

One important aspect of the relations of the railroads to the economic life of the country, it appears to us, has been inadequately emphasized by spokesmen for the industry—that is the necessity for the maintenance of *strong common carrier transportation services as a safeguard for small business.* It is obvious that the beneficiaries of inland waterway improvements (at the expense of the taxpayers) are largely big industrial enterprises which have sufficient capital to enable them to operate their own vessels. The same is true to a large degree with coastwise and intercoastal shipping. Likewise, as common and contract motor carriers have been subjected to a greater measure of regulation and taxation, than private carriers, the large industries which operate their own trucks are given a competitive advantage over smaller businesses which do not have sufficient capital to invest in transportation, but which must rely on the services of common carriers—rail, waterway and highway.

Why Small Business Needs Common Carriers

Some may, perhaps, argue that small business has no place in the modern scheme of things (that being the socialist view). But, from the standpoint of the general economic welfare, small business ought to have the opportunity, at least, to demonstrate its economic right to survival. It is denied that opportunity when public policy stacks the cards against the common carrier services which small businesses must use, and favors (by discriminatory taxation, regulation or otherwise) those transportation mediums which, as a practical matter, are available only to businesses with sufficient capital to operate their own vessels or vehicles.

Commissioner Eastman clearly recognized this condition during his service as Federal Co-ordinator. In an address before the Propeller Club at Philadelphia in April, 1935, advocating the regulation of water carriers, he said:

> Most of the opposition to the bill, so far as the carriers are concerned, has come from the so-called contract carriers and those which are controlled by industries. The former are chiefly bulk cargo carriers, as are many of the latter, and by the very nature of their operations it is usually the big shippers that they serve. *It is the common carriers upon which the smaller shippers must mainly rely,* for those carriers, broadly speaking, do not pick and choose but hold themselves out to serve all alike. For the best interests of the country, it is this common carriage by water that we should particularly foster and protect, and it is this form of carriage which is, and for some time has been, in sore need of protection. [*Italics supplied.*]

Helping "Big Business" Freeze Out "Little Fellow"

The implications of the above quotation go much further than the words themselves. If common carriage stands in need of "fostering" and "protection"—why then continue spending such huge sums of taxpayers' money on inland waterways which, as experience has shown, are of little use to common carriers, but are largely taken over by barges and tankers of huge industrial companies which stand in no need of a dole? If efficient common carriers are socially desirable, then why are private truck fleets of large industries exempt under the Motor Carrier Act from many requirements which are applicable to common carriers and which could under the Constitution be applied with equal rigor to private commercial carriers?

Why do many states exempt large private commercial truck fleets from regulation or taxation which they apply to common or contract carriers, and which they could, as far as federal and state constitutions permit, also apply to private truck fleets? Pipe lines, as Mr. Eastman pointed out in another address, "in reality provide private transportation, although many of them take the form of common carriers." Both pipe lines and water lines provide "trainload rates" which the railways—the main reliance for transportation of the small independent business—are forbidden to offer. Is such discrimination fair, either to the railroads or to small business?

Some, But Not All, "Big Business" Is Socially Indispensable

Railroads are a "big business," and cannot have any prejudice against large corporate enterprise as such. But there is a distinction to be made among large corporations. In some industries—railroads and the manufacture of steel and automobiles, for instance—large aggregations of capital are unavoidable. That this is the situation in all fields which "big business" has invaded may well be doubted. Large aggregations of capital are not indispensable in, for instance, retail trade and some branches of manufacturing. If society desires to be served at lowest possible costs, and large corporate enterprises can honestly undersell small, independent

businesses in these fields, then the latter will fight a losing battle. But in these "border line" businesses, served both by large concerns and small independent ones, is the competition in all cases perfectly fair? Does the large enterprise undersell the smaller because of true efficiency, or because of some unnatural advantage—in transportation by subsidized and favored agencies, for instance?

This question is one the importance of which would be difficult to overestimate. The nation, naturally, should avail itself of the most efficient agencies in supplying its economic wants—but, if it is to make its selection on the basis of comparative efficiency, it is essential that all competing agencies do business under identical rules. Transportation charges are one of the major expenses in many businesses and, we are inclined to believe, the disadvantage which small concerns suffer in competing with "big business" in at least some major lines is not natural and economic, but artificial and political—arising out of the discrimination against common carriers as opposed to contract, private and "trainload quantity" carriers.

"Little Fellow" May Excel in Some Lines

As already pointed out, the railroads, being "big business" themselves, do not and could not oppose large corporate enterprise as such. There should, however, be a distinction between those fields in which the large corporation serves a legitimate economic and social need and those where its predominance is of questionable social value. It is necessary to make this distinction, because otherwise socially desirable "big business" will suffer from the unpopularity which socially unjustifiable large concerns are likely to attract. There is another —more cogent, perhaps, and frankly selfish—reason why the "little fellow ought to be given a break" wherever possible. That is the fact that capitalism—"big business" as well as little business—needs votes if it is to continue to exist; and how can it hope to enlarge its voting power if thousands of little businesses are driven out of business in those fields where the efficiency of little business, if it were given an even chance, may very well be greater than that of the large concerns which are invading its field?

The cause of the railways and that of small business which cannot afford to operate its own fleets of trucks or vessels is thus a common one. Both are being harmed by political discrimination against common carriers, which unduly favors large enterprises enabled, by their size, to take advantage of subsidized transportation from the use of which the "little fellow" is—from a practical standpoint—virtually barred. And if the railways (and perhaps common carrier trucks and water lines) should realize their common interest and strive to remove the discrimination against common carriers so that the "little fellow" would have a greater chance of survival—that would not be an act unfriendly to legitimate "big business."

Private business of all kinds is on the defensive; it needs friends and it needs votes. When "big business" or politicians or any other force work to reduce the number of individual business concerns, they simply add to the proportion of the population which no longer has a direct stake in free private enterprise, or an adequate understanding of its problems. Thus business, legitimately "big" by its nature, also would be served by assuring the "little fellow" a fair chance for survival in his legitimate field—a chance which he cannot have so long as discrimination exists against common carriers.

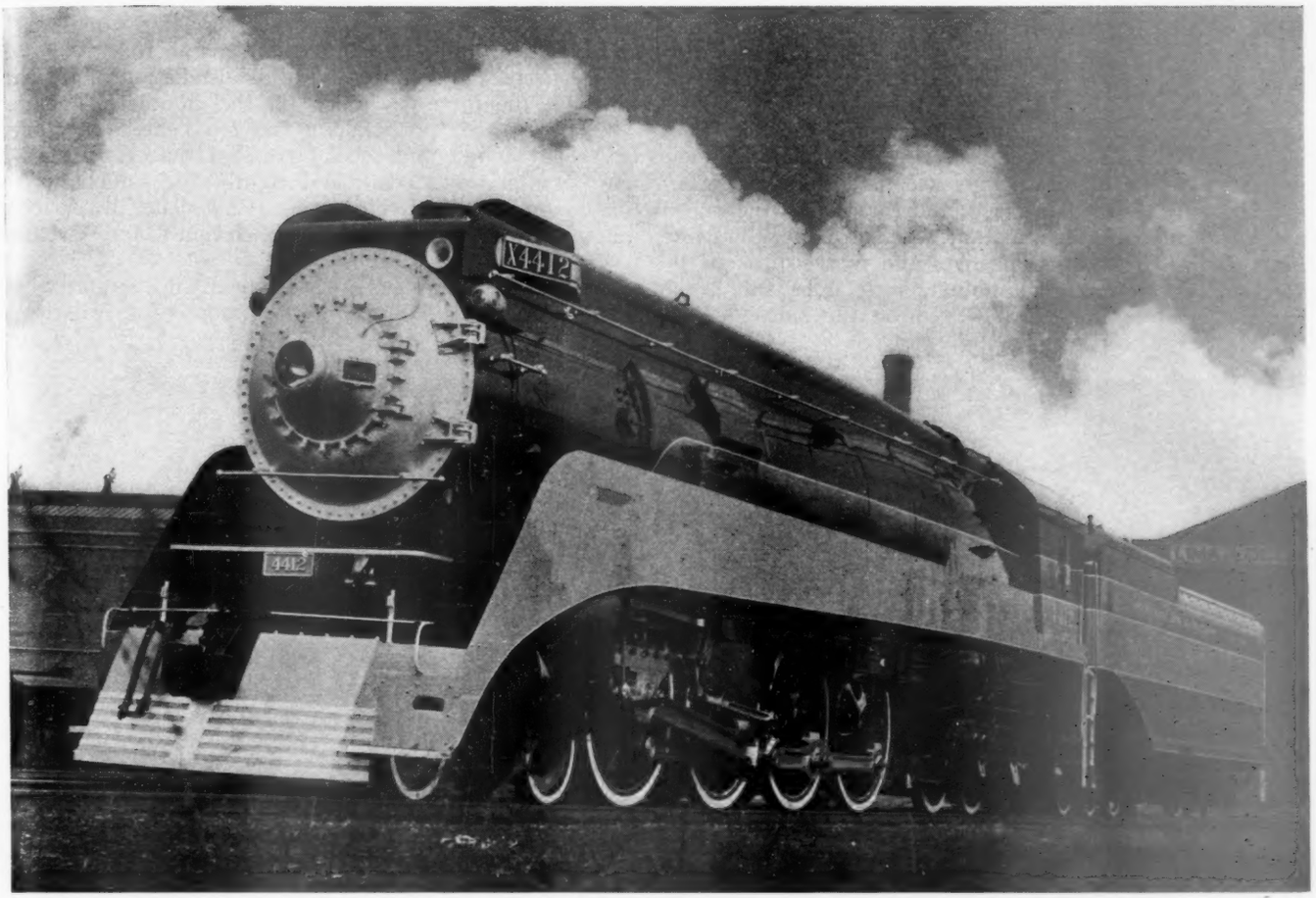
Electric Lighting of Switch Lamps

The recent development of electric lamps that will withstand vibration, and the improvements in batteries for this service, raise a question regarding the practicability of replacing oil lamps with electric lamps on hand-throw switch stands. To meet the special requirements of this service, lamp manufacturers have developed a lamp rated at 150 m. a. which has proved satisfactory in withstanding vibration on switch stands for 18 months or more, burning continuously. In the meantime, three different types of batteries, wet-primary, dry-primary, and low-rate discharge storage cells, have been developed that will operate in this service for more than a year without attention.

These electric lamps, with the special batteries, have been used quite extensively in recent years to replace oil lamps on automatic block signals and outlying interlocking signals. Because of the experience thus gained, several roads have applied the same type of lamps and batteries to lamps on switch stands, lighting them continuously. One road has adopted the still further innovation of utilizing the switch indicator circuits of the automatic signaling system to turn on the switch lights only when a train is approaching or passing.

On two roads, which have made several test installations, the cost of changing over from the oil lamp to the electric lamp, with battery, housing, wiring, etc., in place, ranged between $20 and $27.65 per switch, while the total annual charge, including interest on investment, depreciation, supplies and maintenance, ranges from $10 to $13.51, depending on the type of equipment used.

The annual cost of maintaining and operating an oil switch lamp varies with the location of the switch and the methods employed in maintenance, as well as in accounting for labor and materials. A canvass of several roads shows that this cost ranges from $15 to $21 per year, and one road is using an average value of $18 annually. On the basis of these figures, the electric lamp should save approximately $5 operating expense annually for each switch, a return of about 20 per cent on the investment required.



The 4-8-4 Type "Daylight" Locomotives for the Southern Pacific

Largest Streamline Steam Locomotives

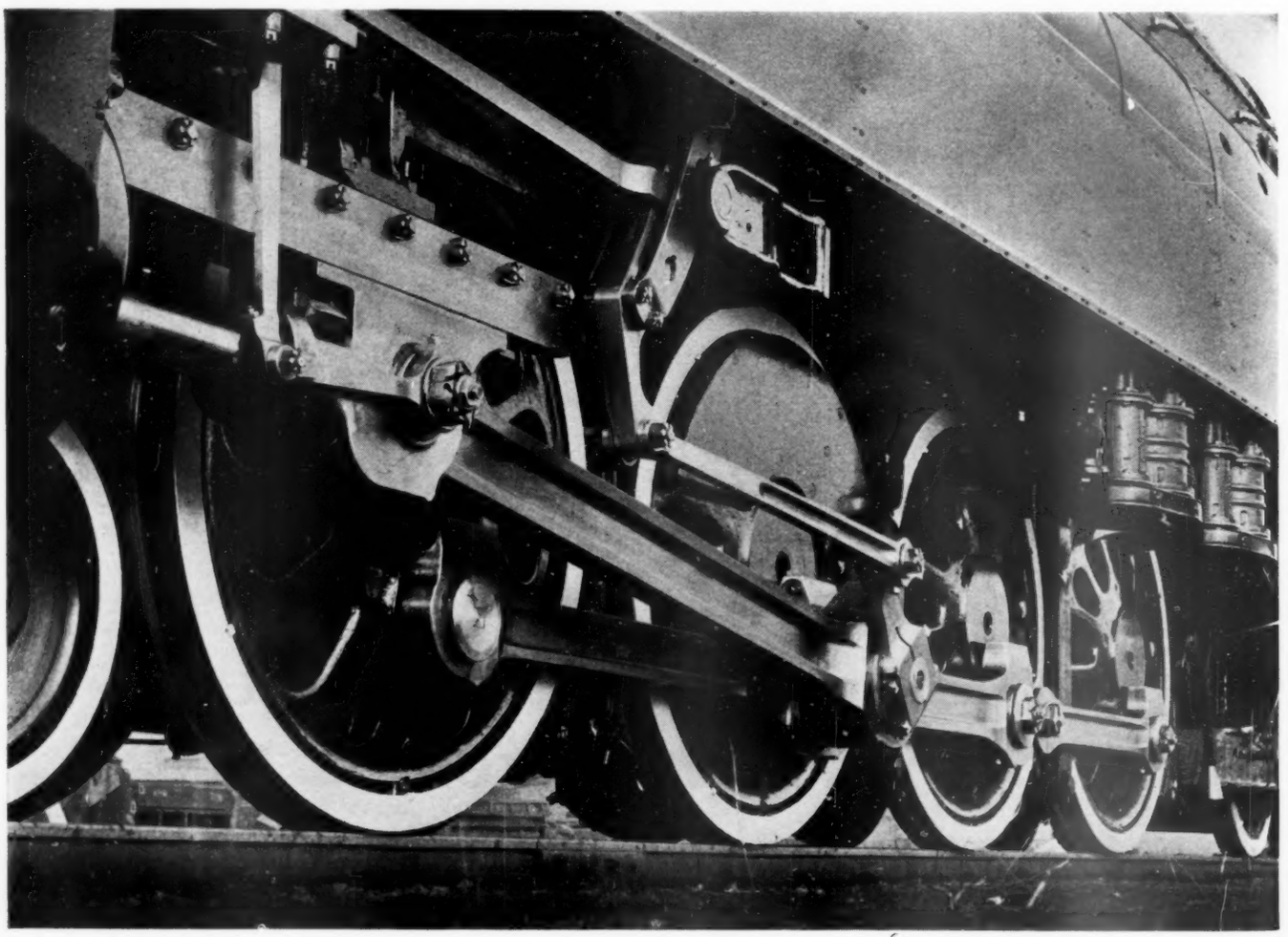
Southern Pacific 4-8-4 type, built by Lima, for high-speed passenger runs over a difficult profile

THE Southern Pacific has received from the Lima Locomotive Works, Inc., six locomotives of the 4-8-4 type which were designed for use on the Daylight train service to be inaugurated between San Francisco and Los Angeles during the coming spring. The locomotives are streamline and are decorated with a view to harmonizing with the new coach equipment which has been ordered for the Daylight trains. They have a total weight of 448,400 lb., of which 266,500 lb. are on the drivers, and develop a maximum tractive force of 74,710 lb., including the trailer booster. The cylinders are 27 in. by 30 in., and the driving wheels, 73½ in. in diameter.

While the schedule for the Daylight trains has not yet been finally established, it will be considerably accelerated over the present running time. The trains will operate over the Southern Pacific Coast Line via San Luis Obispo, a line which has a maximum grade of 2.2 per cent, with grades of 1 per cent over a large part of the run. The trains now being built will be of lightweight construction, with six of the coach body units articulated into three pairs and the remaining six cars each an independent vehicle. Exclusive of the locomotives, the train will weigh 1,187,500 lb. and will be 870 ft. long. It was the need to haul these trains at high speeds under the difficulties imposed by the line that led to the development of a locomotive possessing both high tractive force and the ability to make high speeds on level track.

Not only have these locomotives been streamlined by enclosing the sandbox, dome and other equipment mounted on the top of the boiler within a smooth casing, with the headlight enclosed within a casing which is faired into the smokebox door, but a striking color effect has also been achieved by the extensive use of red and orange on the sides of the locomotive and tender. The smokebox front is painted aluminum and the train-

number indicators are aluminum with black stripes. The pilot with its streamline hood is in orange with aluminum bands. The name of the train is lettered in aluminum on the orange of the streamline apron which extends down from the running board on each side. The emblem associated with the lettering is in red outlined in black. The marker lamps are in aluminum. The cylinders are finished in black, and the guides, the main and side rods and the motion work are steel with a highly polished finish. The tires and wheel rims on all wheels are painted in aluminum, with steps and grab handles cadmium plated. The red on the sides of the boiler above the running board and on the side of the tender, separated by the band of orange, will match the same colors on the sides of the coaches and the yellow panel will line up with the window panel of the coaches.



The Running Gear

The Boiler

The boiler has an outside diameter of 86 in. at the first ring. It is designed to carry 250 lb. pressure and is built of carbon steel of basic flange quality. The firebox is equipped for oil burning and the combustion space includes a chamber extending 60 in. into the boiler barrel. Welding is employed at the ends of the longitudinal seams in the barrel courses, and the firebox sheets are seal welded to the mud ring 12 in. each way from the corners. Calking edges of the back firebox are lightly welded to the crown sheet after calking. The staybolts are of Ulster iron with an installation of Flannery telltale type flexible bolts at the usual corner breaking zones and completely around the combustion chamber.

The firebox is equipped with an installation of fusible plugs of the type developed on the Southern Pacific. There are three plugs along the top center line, one between the first and second rows of the crown stays, one between the seventh and eighth, and one between the fifteenth and sixteenth rows. Two laterally spaced plugs are located between the eleventh and twelfth rows.

The boiler is equipped with a type E superheater with a Tangential steam dryer in the dome. An American multiple front-end throttle is built in the superheater header. The feedwater heater is the Worthington type 5SA. The boilers are also equipped with the Signal Foam-Meter.

Frames and Running Gear

The foundation for these locomotives is a steel bed casting with which the cylinders are cast integral. The engine and trailer trucks are also General Steel Castings design, the former with inside bearings and the latter of the four-wheel Delta type. The trucks are all fitted with oil-packed journal boxes. The driving wheels are cast steel of the Boxpok type. All driving axles, as well as the engine-truck and trailer axles, are of medium carbon steel normalized and drawn.

The cylinders are fitted with two-stage bushings which, like the valve bushings, are of Hunt-Spiller gun

iron. The valve bull rings are also of this material and are fitted with Hunt-Spiller duplex sectional packing rings. The pistons are of cast steel, without separate bull rings, and are fitted with the Locomotive Finished Material Company's bronze packing rings. Paxton-Mitchell packing is applied to the valve stems and piston rods.

All rods and motion work are finished with a high polish, free from surface marks, in accordance with the practice of the builder. The back end of the main rod and the intermediate side-rod connections are fitted with floating bushings, having fixed bushings of Hunt-Spiller gun iron. The bearings on the front and back crank pins are fixed bushings. The locomotives are fitted with the Walschaert valve gear having a maximum travel of 7¼ in. They are equipped with the Alco reverse gear and the Valve Pilot for cut-off control. In order to prevent hooking up to a cut-off of less than 25 per cent the quadrant from this point to the center is blanked. The valve-motion parts are of medium steel like the running gear and crank pins, with the exception of the eccentric rod and radius bar which are of mild steel.

General Dimensions and Weights of the Southern Pacific 4-8-4 Type Locomotives

Railroad	Southern Pacific
Builder	Lima Locomotive Works
Type of locomotive	4-8-4
Road class	G S 5
Road numbers	4410-4415
Date built	1936
Service	Passenger
Rated tractive force, engine, 83 per cent boiler pressure, lb.	62,200
Rated tractive force with booster, lb.	74,710
Weights in working order, lb.:	
On drivers	266,500
On front truck	77,400
On trailing truck	104,500
Total engine	448,400
Tender	372,880
Wheel bases, ft. and in.:	
Driving	20— 0
Total engine	45—10
Engine and tender, total	94—½
Driving wheels, diameter outside tires, in.	73½
Cylinders, number, diameter and stroke, in.	2—27 × 30
Valve gear, type	Walschaert
Valves, piston type, size, in.	12
Maximum travel, in.	7¼
Boiler:	
Steam pressure, lb.	250
Diameter, first ring, outside, in.	86
Firebox length, in.	127⅛
Firebox width, in.	102¼
Combustion chamber length, in.	60
Tubes, number and diameter, in.	49—2¼
Flues, number and diameter, in.	198—3½
Length over tube sheets, ft. and in.	21—6
Fuel	Oil
Grate area, sq. ft.	90.4
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	350
Firebox, total	350
Tubes and flues	4,502
Evaporative total	4,852
Superheater	Type E
Combined evap. and superheat.	6,938
Feedwater heater	Worthington
Tender:	
Style	Rectangular
Water capacity, U. S. gallons	22,000
Fuel capacity, gal.	6,275
Trucks	6-wheel

The rods and valve motion have Alemite fittings in the grease cups. Driving boxes are fitted with Franklin grease-lubricated cellars, and the cellars on engine- and trailer-truck journals are waste packed for oil lubrication. The cylinders and valves are lubricated from a Nathan eight-feed force-feed lubricator, type DV4, of 20 pints capacity. In addition to the valve and cylinder feeds two feeds lead to each guide. A Nathan Model 1918 hydrostatic lubricator with three feeds is provided for the booster cylinders, the hot-water feed pump and the steam cylinders of the air compressors.

There are two cab turrets. That for saturated steam is on the right side and supplies the injector, the hydrostatic lubricator, the steam heat and the emergency connection for the reverse gear. On the left side is the super-heated-steam turret from which steam is supplied to the feedwater pump, the air compressors, the booster, the oil-burner manifold, the Pyle-National turbo-generator and the blower.

Concealed within the cowling over the top of the boiler are the turrets and the headlight turbo-generator. The safety valves and the whistle, the latter disposed horizontally, are placed in wells, open at the top. The top of the dome cover is accessible through a hatch in the cowling and the sandbox occupies a rectangular space built into the cowling, which has a capacity for 2,000 lb. of sand. The smoke lifter around the stack is completely open at the front and top.

In addition to the steam whistle the locomotives have Typhon air whistles which are mounted over the top and at the front of the smokebox. The headlight is mounted in a streamline casing which completely covers the smoke-box door and in the sides of which are openings for the locomotive number indicators.

Unlike many recently built locomotives the two cross-compound air compressors on each of these engines are mounted on the left side of the boiler, partially concealed under the running-board skirt. The bell is placed under the smokebox, to the bottom of which it is attached.

The Tender

The tender is of the rectangular type and is designed in cross-section to conform with the exterior of the coaches of the train. It is built up on a cast-steel water-bottom underframe. The tank has a capacity of 22,000 gallons of water and carries 6,275 gallons of fuel oil. The tender is carried on six-wheel trucks with 7-in. by 14-in. journals.

The general dimensions and weights are given in the table.

Railroads Help In Flood Emergency

By J. J. Pelley*

THE greatest mobilization of transportation for rescue and relief work ever known was carried out by the railroads of the United States in helping to meet the emergency created by the recent unprecedented floods along the Ohio and Mississippi rivers. Approximately 200,000 refugees were carried to places of safety on rescue trains. Hundreds of special trains were rushed into the flooded area loaded with relief workers and supplies of all kinds—drinking water, food, fuel, boats, tents, bedding, clothing and medicines among them. Thousands of freight and passenger cars were mobilized in the vicinity of threatened areas to meet anticipated emergencies and to house refugees and workers at critical points.

The vital part played by the railroads in the great national effort to aid the flood regions is shown in reports just received from the various rail lines by the Association of American Railroads.

From practically the entire length of the Atlantic

* President, Association of American Railroads.

coast to well into the heart of the Middle West and Southwest, the railroads were mobilized into one gigantic relief organization. That there was not greater loss of life and more intense suffering from the effects of the floods can be attributed in no small degree to the prompt movement by the railroads of the refugees from the stricken areas and the dispatch with which the rail carriers transported relief supplies into the flood zones.

The exact number of refugees evacuated by the railroads will never be known, since no effort was made to collect tickets. Refugees were taken not only to the immediate safety of nearby high ground, but many trainloads were carried on to cities and towns throughout a wide area on both sides of the Ohio and Mississippi rivers, where problems of food and shelter were less acute than in the immediate vicinity of the flood. As conditions permit, they are being returned to their homes.

Lounge cars in numerous instances were stripped of their furnishings and fitted up as hospital cars for the movement of sick. In one instance an entire hospital staff, together with patients—many of them in critical condition — were transferred from a hospital in the danger zone to another removed from the flood area.

Special passenger and freight trains carrying lifeboats and members of the Coast Guard stationed at many points along the Atlantic Coast from Maine to Florida, and on the Great Lakes, moved on fast special schedules into the stricken area.

Seamen, policemen, United States Army engineers, soldiers, Navy Yard employees, Red Cross officials, physicians and other relief workers rushed in special trains to the flood-besieged cities and communities from scores of cities throughout the East, South and West. On one special train were nearly 200 volunteer seamen from New York, who were sent to Louisville, Kentucky, to engage in relief work. Two contingents of officers and men with boats, radio and general equipment were sent from the Philadelphia Navy Yard to Memphis, while a complete United States field hospital with ambulances and full equipment was forwarded from Carlisle, Pennsylvania, to Louisville, Kentucky. Fire engines and firemen from Philadelphia, Harrisburg, Altoona, Erie, Pittsburgh, Chicago, and many other cities were also sent on special trains to Louisville and other points.

At the same time there were dispatched into the flood area trains carrying free of charge all supplies shipped by the American Red Cross and consigned to that organization for sufferers in the flood zone.

Because water in the flood zone had been contaminated, great quantities of pure water were shipped by rail into Cincinnati, Louisville, Evansville and other cities along the Ohio river. Trains of tank cars, which had been sterilized and loaded with drinking water, were sent from Chicago, Indianapolis and other cities. Nearly every train, passenger and freight, which moved into the flood area from nearby cities included one or more tank cars filled with drinking water. In order to have available an adequate supply of tank cars to be used for this purpose, a special train of 50 empty tank cars was given preferred movement from Philadelphia to Indianapolis. Locomotive tenders, after being sterilized, also were used in order to supply drinking water to flood victims in many localities.

Many stories showing the resourceful devotion and even heroism on the part of railroad employees have been received. With the regular terminals under water, for the most part, railroad employees in many localities set up emergency arrangements for the delivery of supplies as near the rising waters as trains could be operated. Rescue and relief trains moved, in many instances, through water that threatened to extinguish the fires of the locomotives. In Louisville, for example, as the floods crept up, shuttle trains evacuated more than 50,000 persons to points of safety in nearby Kentucky, while other trains carried refugees across the Ohio to places of safety in Indiana. Still other trains operated from Jeffersonville and New Albany, Indiana, until the terminals at those points went under water. Operations then continued from higher ground further back from the river. All together, more than 100,000 persons were carried out of Louisville and vicinity alone by these rescue trains, operating under conditions of the gravest difficulty. This was typical of the work of rescue at Portsmouth, Maysville, Lawrenceburg, Evansville, Paducah and other Ohio river cities.

When the flood put the city light plant at Louisville out of commission an urgent request was sent to the authorities at Lexington, Kentucky, to send a 45-ton transformer so that light and power could be provided in the eastern portion of the city which was not inundated. Because of flood conditions, the car had to be moved through a junction at Shelbyville, Kentucky, where there was no physical connection between the two lines handling this heavy emergency shipment. Crews of railroad track workers cut the tracks of both lines, swung them around almost at right angles, quickly made the necessary connection, and so made it possible to supply light and power to hospitals and others in a portion of the city not inundated.

To house the refugees, Pullman cars, day coaches, and box cars were turned over to the use of the flood refugees and workers until other quarters could be obtained. From dining cars the railroads also furnished food to thousands of flood sufferers and workers. The steward of one dining car, which was caught in the flood zone at Louisville, reported that he fed an average of nearly one thousand persons daily during the flood. One day the number reached nearly 1700.

Although the Louisville & Nashville Railroad's general office building in Louisville was surrounded by water and was without heat, and part of the time without lights, six girl telephone operators remained continuously on duty for nearly five days to handle the four trunk lines which remained in operation. One line was kept open exclusively to the Mayor's Relief Committee, over which requests were transmitted for contact with points on the railroad's own telephone system which the committee could not reach over the regular commercial telephone lines. More than one thousand contacts of this kind were made.

In order to strengthen the levees at Cairo, Illinois, carloads of sand bags and 200 cars of loose dirt were delivered to threatened points.

Many towns and cities either in or adjacent to the flood zone suffered from shortage of coal with which to operate heating and power plants. The railroads in numerous instances diverted coal to them to enable them to continue to furnish light and heat. In Cincinnati a railroad locomotive was used at the request of the United States Post Office Department to supply heat for the mail room in the Union Station. Similar uses of locomotives were made at other points either to supply heat or steam, or to get plants into operation as the waters receded.

With the passing of the crest at Cincinnati and Louisville and other Ohio river cities, fears were felt for the possible safety of inhabitants of cities and towns along the lower Mississippi river. In order to make available adequate rail transportation facilities if there should be need for a general evacuation of the territory along that

(Continued on page 328)

Milwaukee Develops New Plans for Small Stations

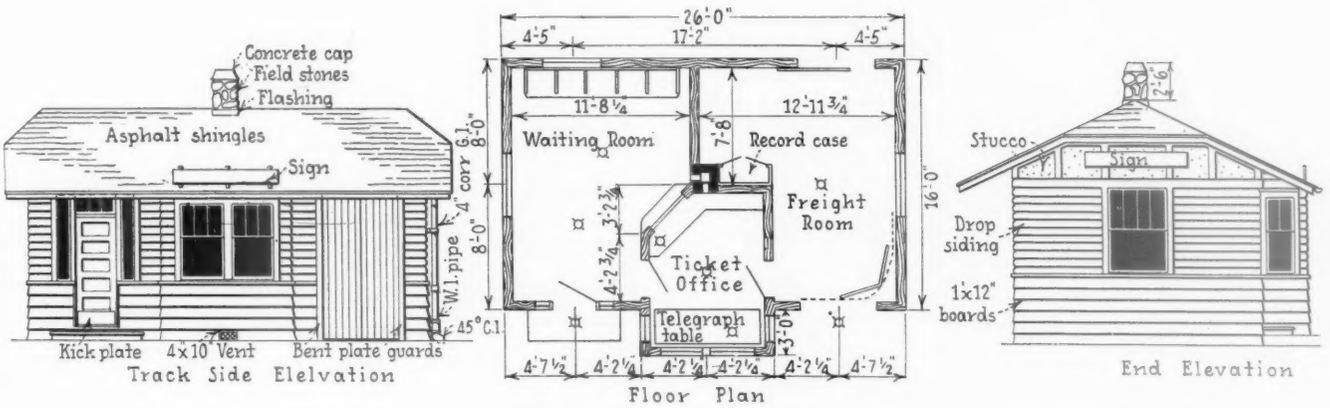
Relatively less space allotted to the waiting room—Objectives of limited first cost and low maintenance expense influence design and selection of materials

CONVENIENCE, more economical maintenance, attractive appearance, a careful allotment of space and low first cost are among the elements that assumed primary importance in the development of new standard plans for small way stations recently adopted by the Chicago, Milwaukee, St. Paul & Pacific. The details of two distinct sizes of small stations are described here, one with an overall base area of 441 sq. ft., designed for minimum requirements, and another with an area of 1,393 sq. ft., for locations where the demands are appreciably greater, although still moderate.

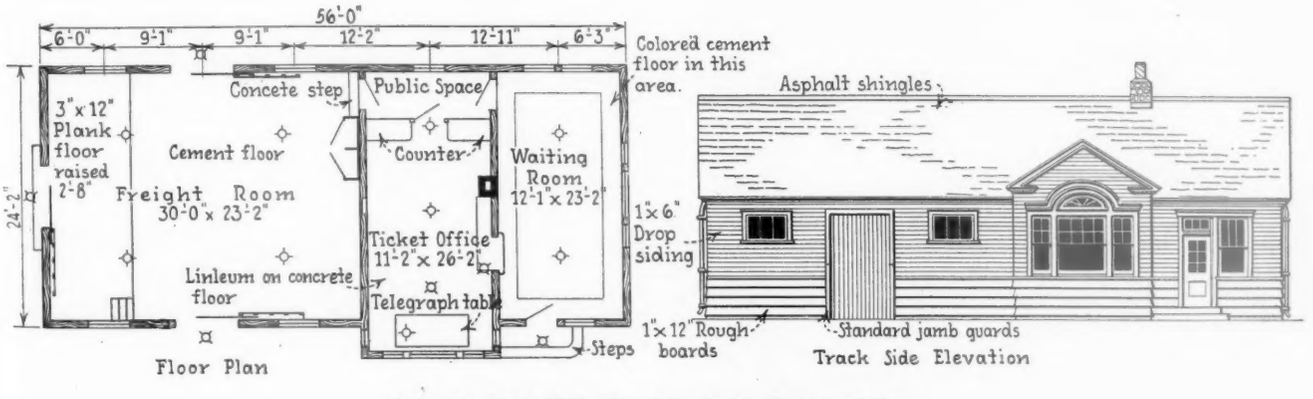
Each is a combined freight and passenger station and conforms to current usage in that only a single waiting room is provided. In line, also, with the experience of recent years, the waiting rooms are small in relation to the size of the stations as a whole. In the larger structure, for example, the waiting room occupies a floor area substantially equal to that of the office, or about one-fourth the total area of the building. The stations are intended for locations where sewers are not available and no provision is made for inside toilets.

Both are frame structures, and the exteriors are given substantially the same treatment—with a base of rough 1-in. by 12-in. boards to the level of the window sills, with drop siding for the remainder of the height, except that stucco is used in the gable ends of the smaller buildings. With the use of a dark brown paint for the base and trim, and a white paint on the drop siding, together with vari-colored asphalt shingles on the roof, a very pleasing effect has been obtained.

The chief feature of the interior is the use of ½-in. Insulite in the larger station and Celotex in the smaller station for the ceiling and the walls above the wainscots, using wood strips over the joints and in the corners. The wainscots, however, are different, that for the small station consisting of Vd.-ceiling placed horizontally, and



Plan and Elevations of the Smaller Station

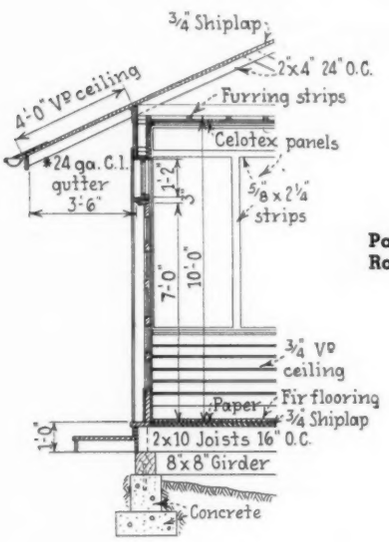


Plan and Track Side Elevation of the Larger Station

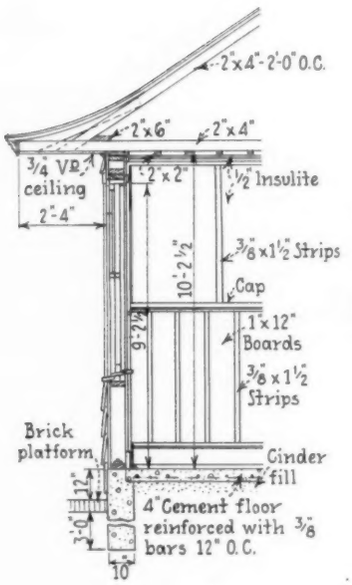
that for the larger structure consisting of 1-in. by 12-in. boards placed vertically with ⅜-in. by 1½-in. battens over the joints.

The two designs differ, however, in that the smaller station has a wood floor, whereas the larger one has a concrete floor supported on the natural ground surface, except that one end of the freight room has a raised floor (truck floor level) constructed of three-inch plank. The concrete floor in the freight room, which is not reinforced, is five inches thick, with the top at platform level, while the floor in the office and waiting room, four inches thick, is reinforced with ⅜-in. rods spaced 12 in. on centers in each direction and has its surface 12 in. above platform level.

In the office, the floor is covered with linoleum, while in the waiting room the surface has been given a special treatment that produces an attractive appearance at low



Part Section Through Waiting Room Door of Smaller Station



Part Section Through Waiting Room of Larger Station

cost. As the concrete is placed, a strip of galvanized sheet metal set edgewise with the top edge flush with the concrete surface, is set in the form of a rectangle so as to divide the floor area into a central panel with a border next to the walls. Then, as the concreting is done, enough iron oxide is introduced in the mix for the border to give it a reddish-brown color, which produces a pleasing contrast with the natural concrete color of the interior panel. After curing, the surface is waxed and the agent is provided with a supply of wax so that he can go over the surface at intervals of about six weeks.

The stations are wired for electric light both inside and out, grouped in circuits with switches that are in or near the office, so that economy in the use of lights is readily obtained. The buildings are heated with stoves; one in the office and one in the waiting room. The new standard plans were developed by A. O. Lagerstrom, architect, under the general supervision of G. Tornes, superintendent of bridges and buildings.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading for the week ended February 6 totaled 675,026 cars, an increase of 15,236 cars or 2.3 per cent above the preceding week, an increase of 53,340 cars or 8.6 per cent above the corresponding week in 1936, and an increase of 83,699 cars or 14.2 per cent above the corresponding week in 1935. All commodity classifications except grain, live stock, and ore showed increases over the preceding week, and all commodity classifications except coal showed increases over last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, February 6

Districts	1937	1936	1935
Eastern	156,831	148,841	144,488
Allegheny	146,983	125,610	120,209
Pocahontas	46,027	50,892	44,160
Southern	91,891	89,110	87,678
Northwestern	77,718	67,396	67,609
Central Western	100,251	90,268	80,602
Southwestern	55,325	49,569	46,581
Total Western Districts	233,294	207,233	194,792
Total All Roads	675,026	621,686	591,327
Commodities			
Grain and Grain Products	28,914	28,524	25,217
Live Stock	10,765	10,430	12,571
Coal	157,420	188,294	150,721
Coke	12,160	10,904	8,904
Forest Products	32,526	24,920	25,417
Ore	9,372	5,376	3,145
Merchandise L.C.L.	158,052	147,123	154,962
Miscellaneous	265,817	206,115	210,390
February 6	675,026	621,686	591,327
January 30	659,790	621,890	596,961
January 23	670,376	584,637	555,528
January 16	700,238	611,347	562,826
January 9	698,529	614,853	553,518
Cumulative Total, 6 Weeks	3,991,912	3,596,239	3,357,434

Car Loading in Canada

Car loadings in Canada for the week ended February 6 totaled 46,508, a decrease of 592 from the previous week but an increase of 7,007, or 18 per cent, compared with last year—the totals being those of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
February 6, 1937	46,508	27,244
January 30, 1937	47,100	27,158
January 23, 1937	45,612	25,971
February 1, 1936	39,501	22,249
Cumulative totals for Canada:		
February 6, 1937	231,514	133,948
February 1, 1936	193,268	107,619
February 2, 1935	203,926	104,614

Research Results in Steam Railway Transport*

Present notable progress largely due to "creative" and "applied" research, the latter being railroads' responsibility

By L. W. Wallace

Director, Equipment Research Division, Association of American Railroads

THE railroad industry cannot make improvements in structures, rolling stock and services faster than the findings of research, the advances of engineering and the developments of industry and business will permit.

This has been and is true because the railroad industry is a service industry. It is not a manufacturer. It is not a research agency. It is not a producer of the commodities it uses. Its relation to the commodities it buys and uses is that of a consumer—a purchaser. Its relationship to such matters is of the same character as that of John Smith to the clothes, food-stuffs and automobiles which he buys and uses. John Smith does not conduct creative research and carry on development work with respect to these commodities. That is done by the suppliers thereof. John Smith cannot purchase more efficient and economical commodities until the producers thereof make them available. Neither can the railroad industry purchase more efficient and economical materials and equipment until the producers, through research and engineering development make them available.

There is this marked difference between John Smith and the railroad industry: he buys a relatively few commodities whereas the railroads buy some 70,000 different items. They buy and use practically every known thing manufactured, be it steel rails, locomotives, cars, trucks, automobiles, airplanes, linens, drugs, chemicals, paints, food stuffs, alloys, lumber, furniture, air conditioning equipment, or sundries.

The fundamental background or foundation of all the things which the railroad industry uses is the sum total of the research, development work, engineering ability and experience of all the producers of the 70,000 commodities which the industry uses, plus its own one hundred years of research, development work, engineering and experience. Its own efforts with respect to these matters have been both extensive and intensive, as has been shown on other occasions.

Three Types of Research

It is advisable at this point to examine briefly the research pattern and the place of the railroad industry therein. In the first place, permit us to define research as an organized, diligent investigation to discover facts. The facts to be discovered may relate to the heavens above, the earth below, the waters beneath, or to any human or physical element in either or all of them. Daily we apply the process of research because daily we are concerned with the facts of the universe and of life.

There are three general types or classes of research, fundamental, creative and applied. Other designating words may be used with as much logic. There are twilight zones between the several types.

Fundamental Research.—The word fundamental means "of or pertaining to the foundation or basis." As a noun it means "a principle which serves as the ground work of a system." The primary objective of fundamental research is to discover the basic principles underlying the universe and the circumstances of life. The work of astronomers, some physicists, chemists, mathematicians, engineers and others falls within this type of research. Their primary interest is not to increase the financial assets of the world, but to broaden intellectual horizons. They often achieve results of direct economic value. Their work is indispensable to the progress of mankind.

Creative Research.—The word creative means "having the power or quality of creating; originative; productive." The primary objective of creative research is to discover, invent, or produce new materials, new processes, new equipment, or to find new uses for existing materials and equipment. The results of creative research express themselves in new types of materials as Dow Metal, Bakelite, Duco, radio tubes, a variety of mechanisms and a myriad of other things.

In creative research the financial incentive plays a more important role than in the case of fundamental research. Creative research might be designated as producers' research, through which means producers are enabled to manufacture and sell new and improved materials and equipment. All consumers are beneficiaries of producers' research.

It is neither the function nor the responsibility of consumers to indulge in creative research as a matter of duty. They may do so as a matter of right and choice. It is a responsibility of producers to engage in creative research because only through such can they keep in step with progress and meet the reasonable economic demands of their customers.

Applied Research.—The word applied means "to put to practical use, also sometimes concerned with concrete problems rather than with fundamental principles."

The primary objective of applied research may be said to be, to determine ways and means of applying to the solution of concrete problems the knowledge, materials, equipment and processes made available by fundamental and creative research. It is a process whereby the purchaser or consumer may select intelli-

* Abstracted from a paper read before the New England Railroad Club at Boston, Mass. on February 9.

gently the materials, equipment and processes best suited to his purposes and needs to the end that increased efficiency, economy and safety may be realized in daily operations.

The Function of Research in Railway Activities

Such is the research pattern. The question is where in this pattern is the place of the railroad industry? Its place is quite obvious. Since it is neither a research agency nor a manufacturer it has no responsibility as a matter of duty to conduct either fundamental or creative research. That it may do so is optional. That it has done so is a fact.

As a purchaser, in its own interest, it has and should constantly resort to applied research as an aid in selecting the materials, equipment and processes that best meet its requirements. There is no better means than applied research to determine the efficiency, economy and safety of that large number of commodities which the railroad industry uses.

It will be observed that creative and applied research are of direct concern to the railway industry: the first because through creative research the suppliers make available to the industry improved materials, equipment and processes; the second because through the aid of applied research the industry intelligently selects those materials, equipment and processes required for safe, reliable and economical performance.

Those who produce railway supplies have, throughout the years, done a large amount of creative research. The railroad industry, throughout its history, has constantly carried on applied research. There have been spurts and lapses but the fact remains there has been a large and continuing effort in both fields of research. The results have been most fruitful.

In view of such facts is it not reasonable to conclude that the railroad industry has adopted the best and most approved equipment and supplies about as promptly as circumstances warranted and with the same degree of promptness as other industries have adopted those things made available for their purposes. Such a conclusion would seem to be a sound one because the railroad industry is not something apart from all other industries. It is guided and influenced by the same conditions and tides of business that others are.

The railroad industry, like all consumers, is dependent upon the progress made by its suppliers. It, like other consumers, cannot advance more rapidly than the sum total advance made by those who supply its requirements. Therefore, a major portion of the criticism of the railroads for alleged unprogressiveness might better be pointed at its suppliers, if real criticism covering an extended period is justified.

It would be just as logical to criticise the automobile industry for not equipping automobiles with radios ten or fifteen years ago, for at that time there were no radios suitable for the purpose.

It would be just as logical to criticise the marine industry for not using the gyroscope compass twenty years ago because at that time no such perfected compass was available.

That the railroad industry is dependent upon the progress made by its suppliers is well illustrated by the air conditioning of railroad passenger cars. From the very beginning of this industry it recognized the importance of heating and ventilating and passenger comfort. It has made a large contribution to the practice and literature of the art of heating and ventilating. Not only this, some thirty-five years ago there appeared in the railway press a discussion of possible means of air conditioning railroad passenger cars. The term air conditioning was then used in the same sense as it is now understood and applied. Over twenty-five years ago an attempt was made to air condition a passenger car. Succeeding efforts were made fifteen and ten years ago. All of these efforts were unsuccessful because there was not available either a suitable refrigerant for the purpose or the necessary equipment.

In 1932 Freon became available as a refrigerant. This was the first refrigerant known to have the characteristics required to air condition railroad passenger cars successfully and safely. Since 1932, when Freon was first made available, the railroad industry, including the Pullman Company, has invested more than $45,000,000 in air conditioning some 8,000 cars.

The railroads could not air condition their cars until the art and science of heating, ventilating and cooling had developed the necessary refrigerants and equipment. Neither can they do the most satisfactory job until the art makes further progress. The fact that the railroad industry is such a large purchaser and user of air conditioning equipment and that it is intensively studying all aspects of the subject will serve to incite all concerned to advance the art.

There are those who ask why have not the railroads used Diesel locomotives prior to the current period. The answer is obvious. Diesel engines of the capacity required for road service were not available until very recently. It has been within the last two years that a 2,000 horsepower railway Diesel engine was built. Diesel engines of such capacity and service are still in the creative research stage. Notwithstanding this, the railroads are conducting applied research on a large, broad and expensive scale. The cost of such applied research is no small item. If applied research and experience prove that Diesel-electric locomotives for general road service are efficient and economical they will be used in an increasing degree. They will, however, have to prove themselves under the acid test of daily operations.

The fact that the railroad industry has interested itself in air conditioning and Diesel-electric locomotives has stimulated research and development work along many fronts.

This is true relating to that large list of commodities which the industry uses, because it is such a large purchaser. This stimulation has given rise to a large and important railway supply industry. The railroad and railway supply industries may be construed as brothers, so intimate are their relationships, interests and well being. Between the two there exists a splendid spirit of helpfulness, cooperation and understanding. There is a constant flow of thought, information and experience between them. It is because of such relationships there obtains today passenger trains of the Hiawatha, Royal Blue, Mercury, Comet, Flying Yankee, Zephyr and other types. These trains make available to the public, traveling comfort, reliability, safety and speed, the like of which were never available before and would not be today were it not for the creative research and engineering development work carried out by scores of suppliers, supplemented by the applied research and experience of the railroads. These trains have been made possible by:

High speed brakes developed by the Westinghouse and New York Air Brake companies, supplemented by a ten-year research program conducted by the railroads and the above named companies, which cost more than $2,000,000.

The high-tensile, lightweight steels and alloys produced by such companies as the Aluminum Company

of America, the United States Steel Corporation, The International Nickel Co. and other well-known makers of steels and light alloys.

The wheels and brake shoes produced by such successful producers as the American Steel Foundries, Edgewater Steel Company, the American Brake Shoe Company and others.

The motive power made available by the American Locomotive Company, the Baldwin Locomotive Works, the Lima Locomotive Works, Inc., the Electro-Motive Corporation and others.

The splendid car designs and appointments produced by Pullman-Standard Car Manufacturing Company, Edward G. Budd Manufacturing Company, American Car and Foundry Company, and others.

The appointments of such trains represent the latest advance in decorations, fabrics, lighting and car design, no one of which items can be said to be the product of any individual company. They are, in fact, the composite of all that has gone before and that it is possible to visualize at the moment.

It is now possible for the train passenger to travel in a lounge room furnished with deep and comfortable chairs, love seats, writing desks, rubber-cushioned carpet, radio and a cozy fireplace. If the traveler desires he may stand at a bar with a foot planted on a brass rail. Where else are such conveniences and comforts excelled.

Freight-Train Progress as Important as Passenger

The modern passenger train is not the only example of progress. The freight train is as striking. Its average speed is today equivalent to that of the crack passenger train of a few years ago. Now the average speed of freight trains, between terminals, including all delays encountered enroute, is approximately 55 per cent higher than in 1920. Its length is far beyond the dreams of the railroader of some twenty years ago. And too, it is being equipped with a train communication system whereby trainmen may talk with each other when the train is either in motion or standing and also whereby they may give and receive instructions to those on the ground. Some of the applied research done in developing this communication system was carried out on the New York, New Haven and Hartford.

During this year tests have been made upon steel box cars from four to five tons lighter than the so-called standard box car adopted in 1932.

Freight-train developments have not stopped. Further advances are in the offing and are sure to become realities.

Welding in railroad construction and repairs has its foot through the front door. One railroad has reported that 500 parts of cars and locomotives are being repaired or renewed by welding. In a given year this road, by renewing worn parts or repairing old parts, realized a saving of $58,500 on truck side frames and $117,000 on truck bolsters.

The extension of the use of welding depends largely upon the needed developments in welding technique. It is also contingent upon the ability of new alloys and light metals to be welded with the assurance that the requisite strength and safety obtains.

Steel rails have been under the microscope of creative and applied research for many years. This work continues. Today the fissures in steel rails are detected before failures occur. Today the ends of rails are rebuilt by welding. Today the length of the rail is 39 ft. instead of 33 ft. Thus the number of rail joints was reduced 18 per cent. Today applied research is hammering out the facts as to the economy, safety and desirability of much longer rails.

By the treatment of the water used in locomotive boilers the life of the firebox and flues has been more than doubled. But this was not enough. Today boiler waters and their effect upon the life and performance of the boiler are being studied scientifically. The problem of caustic embrittlement is feeling the persistent onslaught of scientific minds and technique.

There has been prepared an extensive, comprehensive and objective research program concerning all phases of locomotive boiler construction. Locomotive boilers, waters and materials are having no rest during these surging days of creative and applied research.

The steam locomotive is experiencing competition the like of which it thought was impossible. It is shaking itself and making new records. It is showing that it has a good deal of speed and endurance even when in a race with some of the newer babies.

Authorities are in general agreement that one of the most important factors which will determine the place of the steam locomotive in the future is availability. May I say that the future of the steam locomotive largely rests upon the foresight, ability and courage of the locomotive builders. They cannot rest upon past performance and expect to hold the place of the steam locomotive in rail transport. It is going to require far more than past performance and precedent to do this. The railroad industry cannot move faster in this regard than the builders are willing and able to go.

Another Competitor in the Motive Power Field

The Diesel-electric locomotive a year ago thought it had only the conventional steam locomotive to beat. It perhaps has been surprised at the race the old iron horse has been staging. Now both the steam and Diesel-electric locomotives have to look to their laurels because a young colt has stuck its head out of the barn door—the steam-turbine locomotive. This new colt starts out with 1,200 lb. boiler pressure; steam temperature of 800 deg. F., and a threat of delivering a horsepower at the cost of 8½ lb. of steam per hour. Thus the race continues. The horse which shows the greatest reliability, availability, efficiency and economy will win. The processes of applied research and of experience are operating on them on many fronts.

Transition is in the air. It is here. Not only is this true of the physical properties of the railroads, but also in many operating relationships. Presidents of railroads are attaching to their staffs good housekeepers—young women of education, culture and experience who ride their trains and those of other railroads for the purpose of ascertaining if the house is in good order, if appropriate amenities of travel are available to the guests of the railroads—the traveling public. Some may say this is copying what other forms of transportation have done. Is that so? At least one of these young women graduated in civil engineering at Cornell more years ago than she cares to say. After receiving some engineering experience in the engineering department of the railroad by whom she is now employed she was assigned the housekeeping job, and as some of my Virginia friends would express it, she has done right much.

It is with reluctance that reference is made to the economic conditions of the last six years. To say the least, they have been trying, tight years. It has not been a period in which one would expect an industry to make large capital expenditures. Yet such has been the courage, foresight and faith of the railway managements of the United States that $33,000,000 have been spent for

electrification, $45,000,000 for air conditioning, hundreds of thousands for new experimental trains and other hundreds of thousands of dollars for a large assortment of betterments and services. Is there an industry that can match this progress?

The points to remember concerning the foregoing discussion of the achievements of the railroads are these:

They represent years of effort put forth by many minds and institutions.

They represent the expenditure of a large sum of money for creative and applied research and engineering and operating developments.

No one industry or agency could have commandeered the necessary talent, experience and funds to accomplish the results which are now so evident.

No one industry or agency could muster the necessary talent, experience and funds essential to progress in keeping with past and present performance.

They are not the results of the flight of the imagination, nor the dreams of a dreamer, but rather they have been hammered out on the anvils of research, engineering and experience by many workers.

Such forces, influences and leadership prevail and will continue to prevail. You may rest assured, therefore, that timely and intelligent progress in the future as in the past will be based upon the results of research, the advancement of engineering skill and sound experience. Through these instrumentalities railway managements, if unhampered and unrestrained, will continue to supply efficient, reliable and safe transportation.

Railroad Advertising Expenses In 1935

WASHINGTON, D. C.

IN its annual Statistics of Railways, the text of which has just been issued for the year 1935, the Interstate Commerce Commission has included a new table recapitulating the advertising expenses of the Class I roads by class of service. For the year the total was $8,958,374, of which $8,558,458 was assigned and apportioned to passenger and allied services and $397,457 to freight service. The eastern roads spent $2,914,525 for advertising, the southern roads $1,341,862, and the western roads $4,701,987. The table shows amounts expended through various media, by districts.

Railroads Help In Flood Emergency

(*Continued from page 322*)

river, the Car Service Division of the Association of American Railroads, which, all during the flood, kept constantly in touch not only with the individual railroads but with the War Department and the American Red Cross, ordered all empty box cars that could be spared be sent at once into the South. As a result, nearly 700 empty cars were rushed in solid trains through Washington, D. C. from North Atlantic cities into the South to augment the supply already available there. Similar action was also taken by the railroads in the Southeast, which moved more than a thousand empty cars from points on the Atlantic Coast to threatened areas, and by the railroads west of the Mississippi river. Fortunately the anticipated emergency along the lower Mississippi did not develop, but had it done so the railroads were ready not only to evacuate the inhabitants but also the livestock, cotton, and other possessions.

With every gateway across the Ohio below Pittsburgh closed by flood, the railroads handled the regular commerce between North and South with a minimum of interruption by a system of rerouting freight and passengers through the open gateways of Memphis, Pittsburgh, Washington, and Hagerstown, Md. In this work, as well as in the marshaling of extra coal cars to enable mines outside the flooded area to remain in operation, the Car Service Division of the Association of American Railroads cooperated.

Recapitulation of Advertising Expenses, by Class of Service, Class I Steam Railways, Year Ended Dec. 31, 1935 (Excluding Switching and Terminal Companies)

Class of service	Advertising media: Newspapers and periodicals	Radio advertising—Total	Official guide, time tables, and like publications	Contributions and donations charged to advertising	Advertising department salaries and expenses	All other advertising expense	Total advertising expense
ALL DISTRICTS							
Assigned and apportioned to freight service	$116,960	$2,128	$34,131	$4,068	$63,314	$176,856	$397,457
Assigned and apportioned to passenger and allied services	4,787,805	168,177	1,105,818	52,101	479,395	1,965,162	8,558,458
Unassigned advertising expenses	653	.....	.....	.....	.....	1,806	2,459
Total [1]	4,905,418	170,305	1,139,949	56,169	542,709	2,143,824	8,958,374
EASTERN DISTRICT							
Assigned and apportioned to freight service	39,566	.....	9,564	475	11,192	69,585	130,382
Assigned and apportioned to passenger and allied services	1,534,178	2,559	574,131	3,004	152,775	515,037	2,781,684
Unassigned advertising expenses	653	.....	.....	.....	.....	1,806	2,459
Total [1]	1,574,397	2,559	583,695	3,479	163,967	586,428	2,914,525
SOUTHERN DISTRICT							
Assigned and apportioned to freight service	40,729	61	4,936	969	25,261	58,581	130,537
Assigned and apportioned to passenger and allied services	666,637	109,382	130,430	362	53,194	251,320	1,211,325
Unassigned advertising expenses	.....	.....	.....	.....	.....	.....	.....
Total [1]	707,366	109,443	135,366	1,331	78,455	309,901	1,341,862
WESTERN DISTRICT							
Assigned and apportioned to freight service	36,665	2,067	19,631	2,624	26,861	48,690	136,538
Assigned and apportioned to passenger and allied services	2,586,990	56,236	401,257	48,735	273,426	1,198,805	4,565,449
Unassigned advertising expenses	.....	.....	.....	.....	.....	.....	.....
Total [1]	2,623,655	58,303	420,888	51,359	300,287	1,247,495	4,701,987

[1] Includes value of transportation issued in exchange for advertising as follows: All districts, $86,800; Eastern district, $12,200; Southern district, $50,317; Western district, $24,283.

Pettengill Bill Hearings Finished

Rebuttal statement by Joseph G. Kerr shows most of opposition comes from rival transportation agencies

HEARINGS before the House committee on interstate and foreign commerce on the Pettengill bill to repeal the long-and-short-haul clause of the fourth section of the Interstate Commerce Act were concluded on February 17, and the bill was taken under consideration by the committee. Representative Pettengill predicted approval of the bill by the House, which had passed the same bill last year. It was delayed in committee in the Senate last session and was never reported out.

A rebuttal statement, generally summarizing the testimony of the opponents of the bill and answering the principal general arguments made against it, was put into the record by Joseph G. Kerr, who has just resigned as assistant to the traffic vice-president of the Association of American Railroads to become chairman of the Southern Freight Association. Mr. Kerr said in part:

Principal Opposition to Bill from Rival Transportation Agencies

With my colleagues I have listened with amazement to much of the testimony presented against H.R. 1668 by our opponents, particularly that of the water carriers. Without the slightest intention of criticizing this committee, I may say that the railroad, labor, and shipper proponents of this bill kept within the two days allotted to us and it had been our hope and understanding that a similar period would have been observed by the opponents, and that the record made in connection with H.R. 3263 last year would have been relied upon by both sides. The importance of this bill to our interests is so great that it would have justified our bringing here and asking to be heard in detail railroad and shipper witnesses from every section of the United States. I especially ask that before any decision is reached on this bill that the committee members carefully examine the evidence of proponents as submitted in H.R. 3263.

So many of the statements made at the present hearing are so erroneous, others are grossly misleading, and still others exaggerations of isolated situations, that we are compelled to ask your indulgence to the end that we may take up and answer some of the more important contentions of our opponents.

As I view the evidence presented by our opponents, it was by two general groups. The first group includes operators of boat lines, those interested in building up the business of particular ports, those interested in improving certain inland waterways at the expense of the federal government, and the motor truck operators. Their interests are largely selfish and with little relation to the interest of the intermediate point which is supposed to be protected under the present long-and-short-haul rule.

The second group covers the intermediate points to or from which higher rates might be maintained than those applicable from or to competitive points beyond. Without attempting to calculate the time exactly it would appear about 80 per cent of the opposing testimony has been on behalf of our rival transportation agencies, or of interests very closely allied thereto.

Opponents of the Pettengill bill have sought to convey the impression that the railroads will make the minimum rate yielding any return above so-called out-of-pocket expense in every instance and thus, as they put it, cripple or destroy water transportation. That the railroads will do nothing of the kind in establishing rates lower for the long haul than for the short haul is obvious for two reasons:

Railroads Not Proposing Minimum Rates

First, they have no inducement to go lower than necessary to recover a share of the traffic and the rates they will make will be measured by the steamship rates (plus incidentals such as marine insurance, port charges, etc.), with a *minimum* of railroad out-of-pocket costs, plus some profit below which the railroads could not go in any case without burdening other traffic and encountering the Commission's minimum rate-making power.

Second, the railroads could not establish rates to the ports lower for the longer than for the shorter hauls at a figure below the rates and charges available by water. To do so would create violations of the third section against the intermediate points which, there can be no question, the commission has full power to prevent and could and would prevent such rates from taking effect, should the rail carriers be so foolish as to propose them.

Every rate published by a railroad is subject to the first of the foregoing tests and every rate published lower for a longer than for a shorter haul is subject to *both* of these tests.

The commission with the long-and-short-haul clause repealed has full authority under its suspension power, minimum rate-making power and power to prevent discrimination under the third section, to see that any rate published by the railroads conforms to these principles.

While it cannot be prophesied just what basis the railroads would propose, some indication of what would be thought necessary is available from the fact that on iron and steel for the San Francisco bridges, a large tonnage of which moved by rail; and on bar iron for the metropolitan water district in Southern California, a large tonnage of which moved by rail; and on tin plate for which a large tonnage is moving by rail in competition with the rates by water, the railroads have not made any figure lower than 75 cents per hundred pounds or $15 per ton, minimum 80,000 pounds, which has been applied from Pittsburgh, Chicago and other producing points to the Pacific Coast.

Seek Only Fair Opportunity to Compete

There are many conditions that influence a division of traffic by the shippers who control its movement but there is no basis for the statement made by witnesses that if the railroads made rates low enough to secure some of the traffic, they would secure it all. They do not

seek to secure it all and would not be allowed to do so if they did. They seek a fair opportunity to compete for it and then let the chips fall where they may.

Many witnesses in opposition to this bill urge that its passage would be the forerunner of rate wars, with the ultimate destruction of the steamship lines. Under the law as it will stand, the railroads can not possibly go lower than necessary to compete. The water lines will still be in control of the rate structure and can name their rates on full-cost basis as though there were no rail transportation present. Then the railroads may not approach such full-cost rates nearer than absolutely necessary to compete for the traffic. There should be no rate wars and I anticipate none. Experience indicates the contrary.

From 1926 to the end of 1935 there was rate cutting by the water lines on sugar between the Pacific coast and the Chicago-St. Louis area. First one water route and another, up the Mississippi river or the Erie Canal-Great Lakes would cut the rates and the others would have to meet it. When the Interstate Commerce Commission granted the railroads relief to enable them to meet the water rates as they might be from time to time, the sugar rate structure was promptly stabilized on a basis 4 cents higher than theretofore prevailed and, so far as I am informed, there has been no appreciable rate-cutting since.

Any charge that the railroads will step in and cut their rates because some "fly-by-night" boat cuts a rate is absurd. The railroads are as anxious to maintain a profitable rate level as anyone. They have more at stake than any other agency and certainly are going to be as careful and cautious as any transportation agency in keeping away from rate wars. The best method of avoiding rate wars is to have responsible transportation agencies, with equal opportunity to compete for the traffic.

Water Carriers Not Interested in Intermediate Points

The water carriers criticize the desire of the rail lines to operate subnormal rates at points competitive between the two classes of service and to apply higher rates at points not affected to the same extent by this competition, although the water carriers have no interest whatever in the level of rates in the interior except as they may themselves compete for it. Both the intercoastal steamship lines and the coastwise steamship lines which operate between the Atlantic ports, or between the Atlantic and Gulf ports, follow a practice the advantage of which they desire denied to the railroads by maintaining proportional rates very much lower than the rates which they maintain on local port-to-port traffic.

These water carriers have little or no interest in the long-and-short-haul clause as such. But, it does prevent the railroads from meeting water competition and in this way it operates to the decided advantage of such water carriers. Their interest is purely selfish and has no relation to the rates charged to intermediate points.

The intermediate point in which the water line has no interest is but a smoke-screen to hide the real and selfish interest of the water lines. They want to be free to establish water rates to the ports but want the long-and-short-haul clause continued because it acts as a deterrent to fair competition at the ports on behalf of the rail carriers and also producers who must depend upon rail carriers for transportation.

To the extent that these water lines have any interest at all in interior points that are intermediate to ports via all-rail routes it is in the direction of seeing that the all-rail rates to such points are maintained on the highest possible basis. In this respect their interest is diametrically opposed to that of the intermediate points who desire to see through the operation of the present long-and-short-haul clause reductions in all-rail rates to such points so as not to be in excess of the competitive rates to the ports beyond.

It is perfectly clear to me that a water line's greatest interest in the present long-and-short-haul clause is in connection with the terminal rates and the advantage of having the rail carriers forced to make applications and prove their case before publication is so great as to outweigh the lesser interest as they have in the interior.

If we intended or would be permitted to maintain rates to the coast cities lower than absolutely necessary to meet, within reasonable limits, the competition there confronting us, then there would be some grounds for apprehension on the part of these interior cities. This would also be true if we were permitted to maintain higher than reasonable rates to the interior points, something impossible under the law.

When the railroads were denied fourth section relief to the Pacific Coast, what happened? The rail rates had to be increased even though the commission said that they were reasonably compensatory, that is to say, they more than paid the cost of the undertaking. These rail rates were made so much higher than the water charges that there was no reasonable opportunity for the rail lines to share in the traffic. The water carriers now virtually monopolize it. Along with the rail carriers, interior producers of like commodities have largely been eliminated. There has been a shifting of the business to their competitors elsewhere. In addition, interior industrial development has been retarded. These are facts that cannot successfully be controverted.

Now, what have these interior points gained? The facts show practically nothing. Instead of some of the traffic moving by rail through their communities and contributing to the wealth thereof, it now moves around them by water. The competition faced by the interior jobbers or distributors with those at the Pacific port cities is certainly just as strong as it ever was, if, indeed, it is not much greater.

Railroads Propose Aid to Interior Producers

The importance of aiding interior manufacturers in their efforts to dispose of their production in markets which have available water transportation from competing points of production is emphasized by the adjustment of sugar rates from Montana, Idaho, Utah, Colorado, etc., to Chicago and St. Louis. There is no water transportation from those western states to markets on the Great Lakes or the Mississippi river. But sugar reaches those markets from New Orleans or New York by water at relatively low transportation rates. So the railroads serving those western states sought and obtained relief from the long-and-short-haul rule of the Fourth Section to make low competitive rates to Chicago and St. Louis while maintaining higher rates to the intermediate territory where the water competitive situation does not exist. This has been of inestimable value to the beet sugar producers in that it enabled them to meet a competitive situation at some profit which they would otherwise be unable to do except at the expense of heavy transportation absorptions and probably at a loss.

Our water carrier friends as well as some others apparently want to soft-pedal this beet-sugar rate situation and limit their discussion to cane sugar from the ports. One other thing which they leave unmentioned is the rates on beet sugar from interior California points.

It was the desire of the rail carriers to apply from these interior California producing points rates no higher than the water-competitive rates from the Pacific port refining points to Chicago, St. Louis, and related territory. The necessity of enabling these interior California beet sugar refineries to meet their competition with cane sugar produced at the ports is perfectly obvious and in the interest of interior industry. The commission has denied us this right.

While I am on this subject of interior industry, I recall to your minds the fact that the transcontinental carriers are on record before this committee committed to the policy of applying, to the extent that they may be permitted to do so, from intermediate points of production rates no higher than those we may establish on like commodities from further distant points to meet competition. While there have been some exceptions, this has always been a rather general policy of the railroads and it is what has contributed so much to the upbuilding of this whole country until so effectively stopped through the operation of the present long-and-short haul clause.

What the producers of the Middle-West need are competitive rates that will enable them to successfully market their products in the great markets of the country, and these rates the rail carriers stand ready and willing to establish but they are prevented from freely doing so under the operation of the present long-and-short-haul clause.

Most of the testimony of Mr. Brashears of the American Trucking Association was not in opposition to the elimination of the long-and-short-haul clause but in an effort by assertion to refute the charge that the trucks are subsidized. Other than stating round gross figures, without a breakdown as between the various types of vehicles included in these gross figures, he had no evidence to support the assertion. That, however, has nothing to do with the propriety of eliminating the long-and-short-haul clause. Mr. Brashears advances no single reason why the elimination of the long-and-short-haul clause would be disadvantageous to the truckers.

He did state that the long-and-short-haul principle would not come into play in trucking operations, the reason being, as I understood, that the long-haul trucker was not also a short-haul trucker.

It seems that the whole objective of Mr. Brashears and his clients is to keep an impediment in the way of the railroads in adjusting their rates on a competitive basis with the truck, otherwise they would support the bill. The present prohibitions of the fourth section are harmful, rather than beneficial, to the trucking interest in principle.

J. P. Haynes, chairman of the special committee on the fourth section of the National Industrial Traffic League, appeared February 16 as a rebuttal witness for the proponents of the Pettengill bill. Mr. Haynes cleared up one point for the committee which was whether or not boat lines charged more for a shorter than a longer haul when the shorter was included in the longer. He stated that this practice does prevail to some extent and cited the case of rates from Boston to New York and Savannah by water. He said that the rate made by some intercoastal boat lines from Boston to New York is higher than the rate from Boston to Savannah. Answering a question of Mr. Pettengill's, Mr. Haynes stated that he felt that the passage of the bill would enlarge the market for all commodities in this country. In his concluding statement he attempted to clear up the point as to the origin of the Pettengill bill. He said that it was not introduced at the instigation of the railroads, but was drafted and introduced by his organization, the National Industrial Traffic League.

R. V. Fletcher, vice-president and general counsel of the Association of American Railroads, appeared before the committee on February 17 and concluded the testimony of the proponents of the bill. Representative Walter M. Pierce of the 2nd district of Oregon announced in the House on Tuesday that a bloc of about 30 congressmen had been formed to oppose the passage of the Pettengill bill. The steering committee of the bloc was announced as follows: Walter M. Pierce of Oregon, chairman; John Rankin of Mississippi; Francis Culkin of New York; D. Worth Clark of Idaho; Jerry J. O'Connell of Montana; Henry C. Luckey of Nebraska; and Clifford Hope of Kansas. The names of the other members of the bloc were not disclosed.

Reverse Gear Order Proposed to I.C.C.

WASHINGTON, D. C.

ALTHOUGH the principal railroads and the brotherhoods representing their engine employees reached an agreement on November 20 on a plan for the equipment of locomotives with power reverse gear which contemplated dismissal of the complaint which had been filed by the brotherhoods with the Interstate Commerce Commission, W. P. Bartel, director of the commission's Bureau of Service, and H. C. King, special examiner, have recommended in a proposed report that the commission retain control of the subject by issuing an order requiring the roads to equip their lever-operated manual reverse gear type locomotives of the classes and weights specified in the agreement with a suitable type of power-operated reverse gear.

The commission had once before issued an order requiring the equipment of all locomotives above specified weights with power reverse gear by January 1, 1937, but the railroads contested it in the courts and the Supreme Court of the United States held the order invalid because of the absence of the basic or essential findings as to whether the use of manual reverse gear as compared with power reverse gear "causes unnecessary peril to life or limb." The proceeding was then reopened and the proposed report recommends that the commission make such a finding as well as one that the safety of employees and travelers requires that suitable power-operated reverse gear shall be substituted for manually-operated lever reverse gear. The taking of testimony was concluded in March, 1936, but later an attempt was made to settle the matter by negotiations. After the agreement was signed the brotherhoods asked the commission to dismiss the complaint, but the commission denied the petition on January 11 on the ground that the commission should possess the initiative in such rule-making. The proposed order would provide, as the agreement did, that road engines weighing 150,000 pounds or more on drivers and switching engines weighing 130,000 pounds or more on drivers should have power reverse mechanism applied at the first shopping for Class I or II repairs and that all engines above the weights specified should be equipped not later than January 1, 1942.

The report says that as of August 1, 1935, it was shown that 27,587, or 58 per cent, of the locomotives owned by the Class I railroads were equipped with power reverse gear but that "we have no means of determining the total cost to the railroads of equipping the locomotives not now operated with power reverse gear with

that device." The railroads had given an estimate of $4,630,165 for 11,247 locomotives at $411.68 per locomotive, while the complainants had given an estimate of $2,643,045 for a cheaper type of gear.

The district court in enjoining the previous order had found that the commission had failed to consider evidence as to the railroads' financial condition, so the proposed report considers it and reaches the conclusion that "no undue burden should be imposed on any railroad but that the record clearly indicates the desirability of equipping most of the locomotives operating under present-day conditions with modern reversing gear. In the long run power reverse gear is economical."

"The responsibility for rules adequate to insure safety to employees and travelers upon railroads in respect to operation of locomotives was imposed by Congress upon the Commission by the locomotive boiler inspection act, and to discharge that duty it is essential that the Commission should possess the initiative in rule making. It was granted the power to prescribe the rules and regulations by which the fitness of locomotives for service shall be determined. The Commission is an administrative body performing its functions in the interest of the general public rather than in the interest of particular litigants. The public interest involved in this proceeding compels recognition of the fact that practically all of the Class I carriers of the country have agreed in substance that it would be advisable to equip their yard and road locomotives exceeding certain weights on driving wheels with power reverse gear before the beginning of the year 1942. Whether or not safety to employees and the traveling public is a motive impelling the defendants to enter into the agreement, upon the present record we reach the conclusion that such safety requires the order later proposed.

"It should be pointed out that of the 936 original defendants in this case, the agreement is made between complainants and only 131 defendant carriers, or approximately 14 per cent, numerically. Therefore, approximately 800 of the original defendants are not covered by this agreement. The very great majority of these 800 roads are short lines which in most cases own or operate only a few locomotives—in many cases only one or two. Prior to the filing of the petition to dismiss complaint, an extensive fact record had been developed, and much time and money on the part of the Commission, as well as the parties had been expended. The interest of the general public and the original defendants not parties to the agreement must be protected, and they are entitled to the benefit of the conclusions reached through the facts developed. Rule 157 (Laws, Rules and Instructions for Inspection and Testing of Steam Locomotives and Tenders and Their Appurtenances), relating to reversing gear has applied to all locomotives since its promulgation in 1915. While it is not necessary that all rules relating to the inspection and testing of locomotives be uniform throughout the United States, or at all seasons, or for all classes of service, it is desirable for a proper enforcement of the locomotive boiler inspection act that any rule amending rule 157 be of uniform application throughout the country. When particular facts and circumstances justify the modification of any rule a means is and always has been provided for that purpose by the law or by rule 158. In its main aspects, the agreement evidenced by the petition to dismiss complaint is substantially what we believe should be embraced in an order at the present time for the proposed change in the locomotive inspection rules.

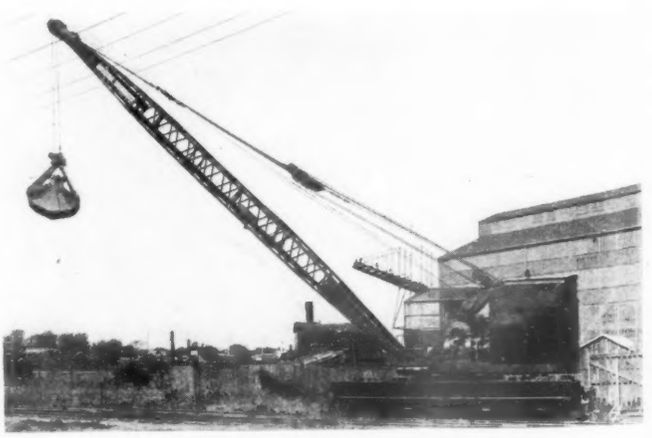
"A determination that the safety contemplated by the locomotive boiler inspection act requires the discontinuance of the use of manually operated lever reverse gear and the substitution therefor of power-operated reverse gear, involves the necessity of likewise determining a reasonable time limit within which the railroads must comply with the new standards to be set up.

"While it is our conclusion that the record justifies a finding that manually operated lever reverse gear causes unnecessary peril to life and limb within the meaning of the statute, and that the substitution of power reverse gear for manually operated lever reverse gear promotes the safety of employees and travelers upon railroads, practical considerations should not be overlooked in the application thereof. Defendants' larger and more modern locomotives ordinarily are operated under more hazardous conditions than their smaller and older ones. Their programs generally provide for the application of power reverse gear on their larger locomotives and this practice should be continued. The weight limits of locomotives proposed in the Commission's prior report seem to be commonly accepted as reasonable. Our proposal will take care of the situation for the present, and for approximately five years in the future. During or at the end of that period, if further action appears necessary, the rules may be, and should be amended to include locomotives which are not now affected."

Develops New Locomotive Crane

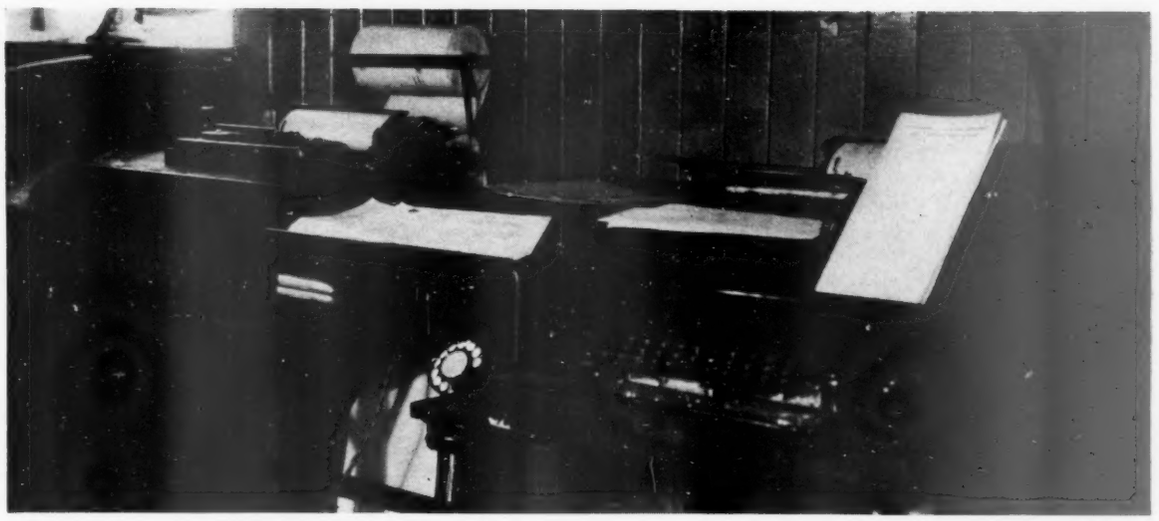
A NEW model, known as No. 9, has been added to the line of Diesel and gasoline powered locomotive cranes manufactured by the Industrial Brownhoist Corporation, Bay City, Mich. The new model is a heavy-duty crane having a capacity of 40 tons when in free-running order and of 50 tons with outriggers in place.

In order to assure low operating costs, ease of operation and flexibility of travel a number of noteworthy



The New Heavy Duty Crane

features have been incorporated in this model. Among these are a two-speed hoist mechanism; four travel speeds embodying a top speed of 15 miles per hour; and a helical worm gear drive which is mounted on anti-friction bearings and runs in an oil bath. In addition the crane crab and engine are mounted on a one-piece steel casting, the travel gears under the car operate in oil-tight cases, and the design is such that when the crane is traveling the crab is disengaged.



Teletype Machines—Bensenville Yard Office

Typewriting by Wire in Chicago Freight Yards of the Milwaukee

Train consist reports and messages handled between classification and industrial yards and car accountant's office over single-line teletype system

THE Chicago, Milwaukee, St. Paul & Pacific is effecting marked economies and expediting its service in the Chicago area by means of two teletype circuits for communication purposes between its major classification and industrial yards and its car accounting office. Prior to the installation of the teletype six years ago, all arrival and departure train lists and other messages and information were handled by "Traingram" service. With this type of service, all messages were carried between the various yards and the car accounting office by special messengers who rode employee trains, company trucks, city transit lines, or other available transportation. No telegraph was employed and telephones were used for checking purposes only.

The teletype service, which has greatly expedited the handling of messages for the Milwaukee in this area, is an electrical message system over which complete typewritten wheel and consist reports and other messages regarding freight shipments may be sent or received over ordinary line wire circuits at a speed of 30 words a minute. Transmission of a message is effected by the use of a teletype machine, which is operated the same as a typewriter, even to the extent that it will make several carbon copies. Typing a message on the sending machine causes receiving machines at all connected points to print the same message instantly and legibly. The complexity of operation of the Milwaukee's yards in Chicago, and the advantages of instantaneous transmission of messages and records over the teletype system, may be realized when it is recalled that 22 trunk lines, 4 major switching lines, 9 industrial roads, and 3 electric lines interchange freight in this city.

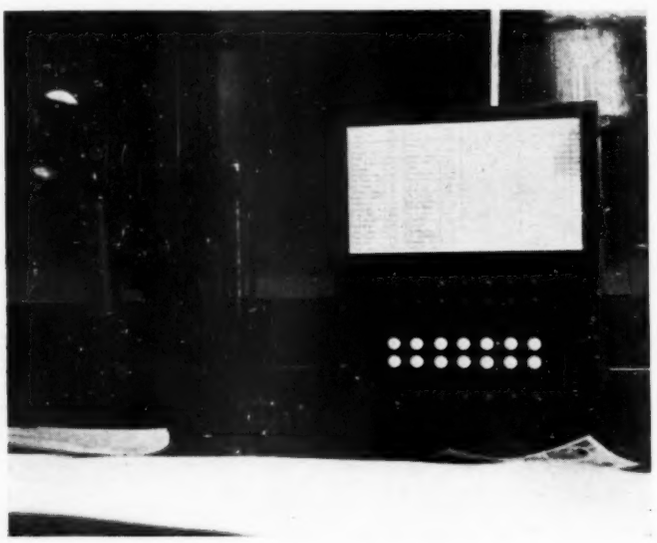
The most important lines of the Milwaukee enter Chicago from the north and west. The major yard, used primarily for classification, is located at Bensenville in the northwestern part of the city. Two offices in this yard are equipped with teletype, the Bensenville west yard office and the Mannheim east yard office. The west office handles the classification of cars moving west or north. The Mannheim office, at the east end of the yard, handles all inbound (eastbound) trains, the classifying of cars and the making up of transfer trains. Both the Bensenville and the Mannheim offices handle trains from the Southeastern division.

A large industrial yard, known as Galewood, located approximately six miles nearer the center of the city, handles the make-up of transfer trains and the routing of cars to freight houses and storage tracks. Another industrial yard, Western avenue, is located closer in to

Milwaukee's Freight Yards—Chicago

the city, southeast of Galewood, and handles industries in that territory. This yard is also an interchange point between the Milwaukee, the Pennsylvania, and the Baltimore & Ohio Chicago Terminal railroads.

The movement of all Milwaukee freight trains in the Chicago area is directed by a train director located in the freight house at Galewood. This office is manned 24 hr. a day and has a telephone dispatcher system connecting with Bensenville, Galewood, and Western Avenue yard offices, as well as extensions to the offices in the Union Street, Kinsey Street, and Division Street industrial districts which are located in highly congested territories. The dispatcher telephone system is also connected into the office of the Indiana Harbor Belt dis-



Train Director's Desk—Galewood

patcher. The conductors of trains carry the itemized train lists with them, telegraphing in to the train director before arrival the general make-up of trains. This information is transmitted by the train director, in turn, to the proper receiving yard.

Car Record and Accounting Facilities

Complete car records are prepared at a car record office located in the Galewood freight house. This office is equipped with teletype. A car accountant's office at Fullerton avenue and Southport street, Chicago, is connected by teletype with both Bensenville and Galewood, the consist reports of trains received here providing the basis for car accounting. Since the Fullerton Avenue office is operated only during the day, teletype machines were also installed on the same circuits at the telegraph office in the Union station to receive messages originating at Bensenville and Galewood during the night. Copies of these reports are forwarded by messenger to the Fullerton Avenue office early the next morning.

Faster Car Tracing Provided

The most outstanding advantage derived from the teletype installation has been the speeding up of information for shippers as to the location of cars. For example: With the messenger system used prior to the installation, a record of a train arriving around noon would not get into the car record and accounting offices until about four o'clock in the afternoon, and since the car accounting office closed at five, shippers calling the next morning and trying to locate a car would find that the information was not yet recorded; with the teletype system, a complete record of a train is in the car accounting office within an hour after the arrival or departure of the train, and information relative to the location of cars is readily available. In addition, a car can be traced in 30 min. now where it used to take 2 hr. The "broadcasting" service performed at Fullerton Avenue car accounting office has likewise been speeded up. This service consists of re-assembling and sending out by air mail, to freight agents throughout the country, information taken from the train consist reports which will allow shippers to know where their shipments are at all times. The teletype has provided prompt transmittal of the necessary information to the car accounting office.

Previously, if a train arrived just after a scheduled messenger had left the yards, car tracing initiated by shippers often overloaded the telephone system and took the time of clerks from other work. The teletype has eliminated this almost entirely, resulting in greater concentration of effort.

A considerable saving also was made by consolidating the handling of interchange reports at Galewood. Whereas the practice previously had been to take the car records from the interchange reports, the car records and interchange reports may be taken now from the teletype consist reports independently of each other. A local car record, which was maintained on inbound trains at Mannheim because the messenger service was too slow in getting train sheets to Galewood, was discontinued, all car records now being kept at Galewood.

Posting of car records is simplified, since the reports are in typewritten form rather than in long hand. In addition, there is a considerable advantage of accuracy in the taking of messages and diversion orders. When the latter were taken over the telephone, car numbers were often transposed due to misunderstanding. Transmission over the teletype results in neatly typewritten and accurate information. Missing records have been practically eliminated. Also, the teletype operates without the attention of the receiving clerk, and a large portion of the time previously consumed in telephone conversation may be used for other work.

The service of the teletype in this installation has proven so satisfactory that the Milwaukee is now considering the extension of the system to Milwaukee, Wis., a distance of 85 miles, and to Savanna, Ill., a distance of 138 miles, to permit the transmission by teletype of the consist reports for arriving trains, prior to their actual arrival, so that cars may be handled more efficiently by the various yards. It is also expected that such a system will prove efficient in the handling of perishable goods for the Chicago markets, on which very fast delivery is required.

Details of Teletype Installation

The teletype installation was placed in service on September 20, 1930, with two circuits operating between Fullerton avenue and Bensenville and Mannheim. Model 12 teletype simplex page printers are used, controlled from sending points by Automatic Electric selectors similar to dial phones. By use of the dial, any receiving station or group of receiving stations may be selected. No. 1 circuit connects the Fullerton Avenue car accountant's office with the Union Station telegraph office, the Galewood car record office and the Mannheim yard office; the No. 2 circuit connects the same offices except that the Bensenville west yard office is substituted for the Mannheim office. Where sending as well

as receiving is done, direct keyboard transmission is used on each line.

Each of these two circuits is operated on a 70 milliampere single Morse wire, both wires taking 110 volts positive battery at Fullerton avenue, No. 1 circuit going to ground at Mannheim and No. 2 circuit going to ground at Bensenville west yard office. When any office or group of offices is selected, the printer motors are started automatically and indication lamps are lighted, showing that the circuit is in use. Fullerton avenue is equipped with one printer on each circuit and one spare machine which may be switched to either line, these machines being designed for receiving only. The Union Station telegraph office and the Galewood car record office have teletype machines on each circuit and a spare machine which can be switched to either circuit, all equipped for both sending and receiving. The Mannheim and Bensenville yard offices have two machines each, equipped for both sending and receiving, one machine at each point being a spare. At Mannheim one machine is on No. 1 circuit, while at Bensenville one machine is on circuit No. 2 which terminates at that point. Where machines are equipped for both sending and receiving, two motors are provided, one for operating the keyboard and the other the printing mechanism. Two sets of Automatic Electric dial and signal selectors are provided at Fullerton avenue, the Union station and Galewood, and one set at Mannheim and at Bensenville west yard office. Power for the operation of the circuits is obtained by the use of Edison and Exide storage batteries on floating charge from copper-oxide rectifiers.

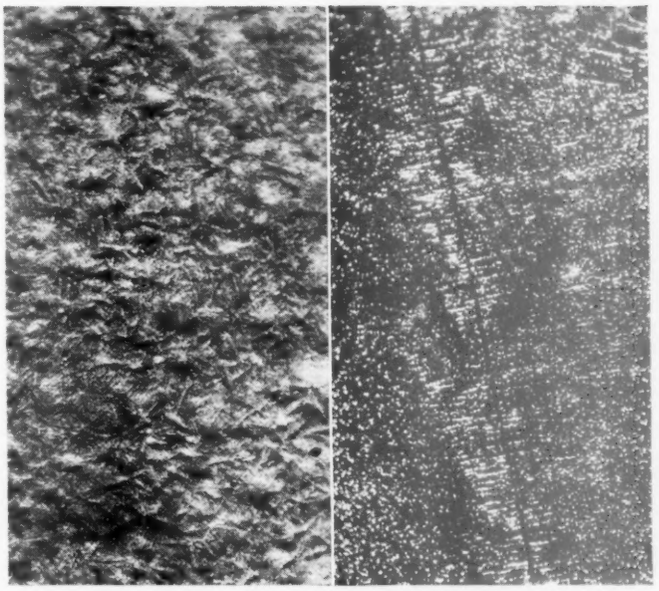
The two machines at Galewood operate at a rate equivalent to 12 to 14 hr. continuous service daily. The consists of approximately 1,950 trains, averaging 55 cars per train, are handled each month from the Mannheim and Bensenville offices over teletype to Galewood and Fullerton avenue. The average time requird to record one train is approximately 20 min. The machines used on this installation were manufactured by the Teletype Corporation.

Armco Galvanized "Paintgrip" Sheets

A NEW type of galvanized sheet that is said to assure a good paint bond on iron and steel products has been developed by the American Rolling Mill Company, Middletown, Ohio. These sheets, which are known as Paintgrip sheets, can be painted without special treatment of the surface by the user. Their introduction followed several years of research on the part of metallurgists of the American Rolling Mill Company and technicians of the Parker Rust-Proof Company.

The new sheets are treated chemically to produce a finely crystalline phosphate coating which in itself is said to be neutral to paint (being neither acid nor alkaline) and keeps the paint from direct contact with the zinc surface. This coating, which is slightly granular in nature, is said to be an integral part of the sheet.

Paintgrip sheets are available in any of the grades of galvanized sheets manufactured by this company and the base metal can consist of either Armco Ingot iron or plain or copper-bearing steel. When required, all grades of these sheets can be supplied stretcher leveled. The forming qualities of the new sheets are the same as for untreated galvanized sheets and they may be soldered satisfactorily with the use of hydrochloric acid as a flux.



Photomicrographs of an Armco Galvanized Paintgrip Sheet (Left) and of an Ordinary Galvanized Sheet. The Enlargement in Each Case is 40 Diameters

While Paintgrip sheets are prepared to receive paint without further treatment it is reported that, as a result of handling and fabricating operations in customers' plants, cleaning will often be necessary. In such cases organic cleaners such as naphtha, benzine and lacquer thinners, are recommended. If alkaline cleaners are used, it is said that the Paintgrip surface will be attacked and partly removed by their action. Because of its crystalline absorbent nature, the surface of a Paintgrip sheet will tend to absorb a certain amount of the alkalies which are difficult to remove.

Practically any good paint can be applied to the new sheets. If baked finishes are used it is pointed out that the paint manufacturer usually recommends a suitable primer. Any good baking system is said to be satisfactory for the sheets, provided the baking temperature does not exceed 450 deg. F. Higher temperatures, it is said, are apt to be detrimental, particularly if the time of baking exceeds 15 min.

* * *

Boston Section of the Twentieth Century Limited Leaving that City on the Boston & Albany

Communications and Books . . .

The Railway Age cannot publish letters from readers who do not supply their names and addresses. Names of correspondents are not published, or disclosed even upon inquiry, unless the correspondent consents. But they must be given us as an evidence of good faith.

A Rebuttal to Mr. Richards et al

NEW YORK.

TO THE EDITOR:

Clarke A. Richards' article, "See Yourself as Your Passenger Sees You," appearing in the *Railway Age* of January 30, interests me very much. First, because I am a railroader and, secondly, because unfortunately, so much of what he says is true. Although I am not an executive, still I believe that I can answer most of Mr. Richards' questions, and at the same time I would like to make some pertinent comments upon some of his statements.

On the particular railroad on which the slogan, "the will to please" is the spirit, it is a rare instance for conductors not to ask for fares with, "Tickets, please!" and on receiving them, often they reply, "Thank you!"

All train crews on my road are continually requested to be courteous to the public and woe betide any member of a crew who is not, for he is severely reprimanded and taken out of the service if he persists in being discourteous, as our management takes the attitude that the public is not to "be damned," but is always right; that is, within reason.

Needed a "Swift Kick in the Pants"

The incident of the insolent brakeman referred to by Mr. Richards was absolutely intolerable. The passenger in this instance, in my estimation, would have been fully justified in administering a good swift kick in the pants upon the person of the impudent offender. Trainmen are supposed to aid passengers with their baggage on boarding and alighting from trains where it is plainly evident that the passenger is having difficulty, and they should see to it that the baggage is safely stowed in the proper receptacles. These duties are in addition, of course, to those of seeing to it that the passengers board and alight from the train safely, are as comfortable as possible, and that the train is handled safely at all times, this last duty being paramount to all others. On any railroad where the majority of the train crews are persistently discourteous, something is radically wrong with the management. Chronic branch line discourtesies come under the same category.

Because of the unforeseen increase in passenger business in the East, due to lowered fares, it is frequently necessary over week-ends and especially during holiday periods to use all available passenger coaches, some of which are not of the most modern types. I know that most eastern roads, and especially my own, are trying ardently to remedy this situation as rapidly as finances will permit.

Air-Conditioning Difficulties

Uncomfortably air-conditioned coaches originate from three chief causes; i.e., poor employee training in the operation of such equipment, poor air-conditioning apparatus, and mechanical trouble. The first cause of trouble may be reduced to a minimum by carefully instructing the train crews in the operation of the apparatus and then seeing to it that they operate it as instructed. Today not a few of the railroads have their own air-conditioning engineers, whose business it is to tour their respective systems, especially during warm weather, instructing and supervising the train crews in the proper operation of air-conditioning apparatus. A poor air-conditioning system is worse than none at all; unfortunately there are such and they are doing a lot of harm by subjecting passengers to obnoxious conditions which are nonexistent on such equipment when genuinely air-conditioned. All air-conditioning systems are subject to mechanical difficulties which will be more or less overcome as air-conditioning passes out of the experimental stage.

There are many causes of poor car lighting, but I do not think that the railroads are lagging behind in this respect. It is well to remember that each car carries its own light plant and that that plant takes a terrific beating. As lighting systems and methods have improved, the railroads have kept pace with them. It is for this reason that the poorer systems installed in older cars are readily noticeable to the seasoned traveler. There is little excuse today for poor car lighting in new equipment; either the system installed is of the cheapest sort, or else it is being improperly maintained.

Why the coach passenger in these modern times will tolerate poor toilet facilities on some roads when he can have sanitary toilets, hot water, free soap, free towels and better drinking cups than the penny variety, free, on comfortable coaches of other railroads, is beyond me. My road, for instance, introduced the free drinking cup to its day coach patrons well over 15 years ago.

Employees Sometimes Thoughtless

Prolonged opening of passenger coach doors in cold weather is due more to thoughtlessness on the part of the employee than anything else, I think, although poor training of personnel is a big contributing factor. Of course, the original reason for fastening coach doors open before and after reaching a station-stop was and is to facilitate the unloading and loading of the passengers, as most coach doors are equipped with automatic door "closers." Poor regulation of coach heating is also, in my estimation, more a matter of thoughtlessness than of carelessness. Better training would help here, too, and in most of the coaches on my road a thermometer is placed on the side wall near the middle of the car to aid the trainmen in keeping a more comfortable and uniform temperature.

I have never undergone the experience of having dirt rained down upon me due to the sudden opening of a car ventilator, and I do not see how it could happen unless the ventilators were opened while the train was standing. However, I am unable to see the economy of placing new type ventilators in old cars when these cars are either scheduled for air-conditioning or the scrap yard.

Practically the same thing may be said of placing fans in day coaches. My road, for instance, has fans installed in most of the newer coaches, but as soon as air-conditioning is applied, the fans are taken out, because they would produce objectionable and dangerous drafts.

Mr. Richards Wrong About Baggage Racks

Mr Richards is wrong in stating that baggage rack designs in modern railroad coaches have been copied from those found in buses. My road had large baggage racks in its coaches a full decade before bus travel was prevalent and made an advertising feature of the size of the racks. Some railroads, however, have leaned more towards the artistic in their baggage rack designs and have missed the utility factor entirely.

It is not so long ago since timetables first appeared in Pullmans. Very probably, as the railroads become more prosperous, they will make it a general practice to supply their coaches with receptacles in which timetables will be placed, although I cannot say that I am exactly in accord with such an innovation. It would probably mean just so much more rubbish for the train porter or car cleaner to gather up. Then, too, most passengers have acquired the necessary timetables or information for the trip before they board their trains, so that the only real use that the timetable-on-train service offers is that of providing a timetable for those who have made the train at the last minute, or who wish a timetable for future reference, and in the latter case they most likely can obtain a more current table upon arrival at their destination.

Modern social trends which permit and even encourage women

to smoke, are to blame for the increasing tobacco nuisance (in what were once familiarly known, in railroad parlance, as "ladies' coaches") and not the train crews or the management. As Mr. Richards is well aware, the ladies' coach was absolutely forbidden ground to devotees of "Lady Nicotine." Railroad trainmen, believe it or not, do not like to be continually after passengers for breach of the no-smoking rule, for it not only chases business away, but also creates, in most cases, a most disagreeable disturbance. A number of times I have seen a trainman politely request women passengers to refrain from smoking in the ladies' coach as many as three times, and as soon as his back was turned after the third request, nonchalantly light more cigarettes and puff away as if nothing had been said. You cannot blame men smokers for smoking in the ladies' coach if the ladies (?) persist in smoking themselves. The only way to overcome this vexatious situation, as I see it, is to have separate compartments or coaches for women smokers; and I notice that some of the western roads have already installed such accommodations on their trains, and, in fact, my own road has them on a few trains.

Argues for Passes

The pass user's lot is not one of plush seat luxury whenever his or her heart may desire it. Most railroads have restricted trains on which pass holders, in general, are forbidden to ride. Then for particular restrictions, take my own road, which I think is fairly representative. Over week-ends and holiday periods ticket agents are instructed not to sell Pullman sleeper accommodations to pass holders, thus forcing the pass holder to seek his accommodations, usually, after the train is under way. An unwritten rule of my road, effective at all times, is that as soon as a coach becomes so crowded that there are no more seats available, employees on passes must seek other seats in the train, and finding none, must be content to ride as standees.

There have been and continue to be, unfortunately, many flagrant violations of the pass privilege. Any violation of this privilege should be reported to the management at once, for an overt act of one employee often inures to the detriment of all employees of that particular railroad. It is well, therefore, to nip such violations in the bud. Personally, I think, in order to relieve the present over-crowded conditions in the day coaches on most eastern railroads over week-ends and holiday periods, pass holders, who can afford it, ought to seek Pullman accommodations, especially in the day time, which accommodations may be had, usually, at very nominal sums, or else desist from traveling at those times unless duty requires it.

Dining Car Costs—East and West

Dining car meals should be so served and priced as to attract the most patronage and show a profit for the railroad company, if possible. The fact is that food prices along the eastern seaboard, where the eastern railroads obtain the greater proportion of their commissary supplies, are higher than at the sources of supply of the western railroads. It is a fact that the actual cost of operation of a diner in the East is considerably greater than that in the West. The two principal reasons for this, apparently, are the many additional switching operations and lay-over periods required per diner and the fact that where western railroad diners serve on the average of six meal periods per diner per train, eastern railroads barely average two, and frequently a diner is attached to a train merely to serve the breakfast period.

As to why some railroads universally start and stop their trains carefully, it is due, as surmised, to the fact that their engineers are continually reminded and instructed to do so. It is an art not easily acquired and cannot be accomplished when the train is under-powered.

Antiquated Stations

The only plausible excuse for antiquated way-side stations may be found in the fact that railroads have been in business a long time and when these stations were built they reflected the best accommodations of their sort of the period, and where communities have not absolutely demanded up-to-date facilities or new stations, the railroads have been perfectly content to keep the old stations in repair, because each time they make improvements their taxes are raised.

On the other hand, where before the depression stations were kept in repair and habitable, when the depression struck repairs ceased, station supervision was cut to the bone along with station forces; result, the present atrocious conditions at wayside stations. What is to be done about it? Well, as the railroads get back on their feet many of the stations will be abandoned because they are no longer needed, others will be repaired and made habitable, and where business warrants, new facilities will be installed and, in many cases, wholly new stations will be built, and of course, an endeavor will be made to have all stations properly maintained and manned.

With Mr. Richards' remarks on passenger conductors being able to give train connection information, I am in complete accord; likewise as to his discourse on the necessity of information clerks and ticket sellers being polite and efficient, and a sufficient number of them employed to take care of the business offered.

A good many railroads openly advertise that suggestions for the improvement of the service are welcomed. A slogan used by my road is, "Suggestions for the betterment of the service are always in order." In a great terminal in New York City, a suggestion box is set up and plainly visible at the information booth.

"Thank You" Depends on Size of Tip

Station porters are not always courteous, and with many of them it seems to depend upon the size of the tip whether they say "Thank you!" or not. I have in mind the porters at one important union station. For the most part, at this particular terminal, they are an insolent and insulting lot.

In conclusion, permit me to make several pertinent observations with regard to railroad service. First, since railroads are operated by humans and not by angels, railroad service will never be perfect. Secondly, when criticizing the railroads, it is well to remember that no executives of any industry can surpass those of the railroads of this country for their ingenuity and integrity. If it were not for their excellent management, over three-fourths, instead of one-third of the nation's railroad mileage would be in bankruptcy. Lastly, but not least, there are no more loyal and efficient employees in any industry in this nation than the great army of railroad employees. However, there should not be and there is not any room in the railroad industry for a discourteous employee, be he an executive or a laborer, and all should strive in unison to make railroad service as perfect as it is humanly possible.

NOT A RAILROAD EXECUTIVE

Not All Abandonments Are Short Branch Lines

NEW YORK

To the Editor:

When abandoned railroads are mentioned, most railway men probably think only of short branch lines, and yet there are ten railroads over 100 miles in length that have been entirely abandoned in this country. The largest is the 335-mile Colorado Midland, running between Colorado Springs, Colo. and Grand Junction. Winding around the base of Pike's peak and traversing the most rugged portion of the Rockies at Hell Gate Canyon, it was regarded by many as the most scenic road in the country. The two-mile Busk-Ivanhoe Tunnel under the Continental Divide at an altitude of over 10,800 feet, was a remarkable achievement. Although the Midland was 77 miles shorter and 90 minutes faster than its competitor, the Denver & Rio Grande, it was abandoned in 1918. One factor may have been its heavy gradients and sharp curves; another, diversion of traffic by the United States Railroad Administration for political reasons. Much of the roadbed is now an automobile highway.

Serving the same part of Colorado was the 3-ft. gage Denver, South Park & Pacific, extending from Denver to Gunnison, with a branch to Leadville. It was originally planned to run

down the Grand Canyon of the Colorado to California. Another narrow-gage line was the Ohio River & Western, which ran its fastest train from Bellaire, Ohio, to Zanesville, at an average speed of 18 m.p.h. It was appropriately nicknamed "Old Rusty & Wobbly."

Here is the list of abandoned railroads over 100 miles long:

Mileage*	Railroad	State
335	Colorado Midland	Colo.
328	Denver, South Park & Pacific	Colo.
198	Las Vegas & Tonopah	Nev.
172	Kansas City Northwestern	Kans.-Neb.
166	Detroit, Toledo & Milwaukee	Mich.
155	Kansas City, Clinton & Springfield	Kans.-Mo.
114	Memphis, Dallas & Gulf	Ark.
112	Ohio River & Western	Ohio
110	Ocilla Southern	Ga.
107	Georgia Coast & Piedmont	Ga.
104	Cape Girardeau Northern	Mo.

* Figure given is mileage of first track as of June 1, 1916. Short sections of some of these lines are still operated by other companies.

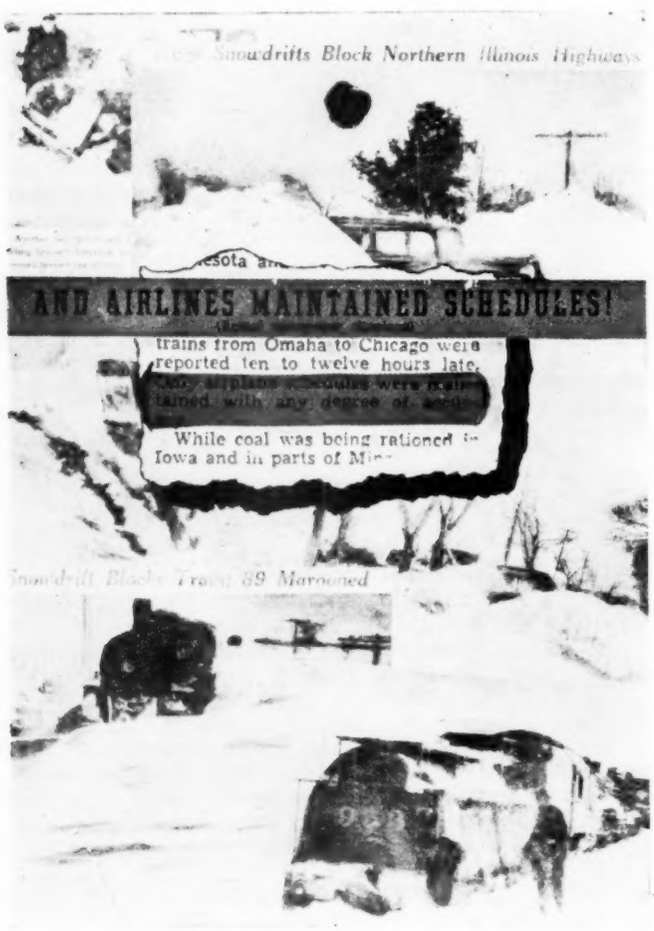
WILLIAM B. SCHALLEK

Speaking of Dwellers in Glass Houses

NEW YORK

TO THE EDITOR:

I wonder how many readers have seen the brochure recently issued by American Airlines, depicting railroad trains stalled


Snowdrifts Block Northern Illinois Highways
AND AIRLINES MAINTAINED SCHEDULES!
trains from Omaha to Chicago were
reported ten to twelve hours late.
While coal was being rationed in
Iowa and in parts of Mi
Snowdrift Blocks Train; 89 Marooned

How One Air Line Advertises Its Winter Services

in snow-drifts while the planes, with their allegedly "all-weather" service, plow through to victory.

Photos of trains stuck in last winter's unusual storms outside of Chicago are reproduced from newspaper pictures, with the captions attached, while interspersed are printed reminders that the airplanes were not adversely affected. Just to make the scene complete, this enterprising brochure also shows some automobiles stuck in the drifts.

After the forebearance which the railroads have shown in never alluding to the constant crashing of air-liners into mountains, trees, house-tops and the like, this attack upon the railroads is certainly in very poor taste. We all know that the rule "never to knock one's competitor" is evaded by giving him the poorer side of the story when comparing his services with our own, or by damning him with faint praise, but when it comes to publishing a booklet attacking, by photos, the railroads, the airlines have about reached the limit of cheap salesmanship, in my opinion.

I have carefully preserved headlines showing air-crashes, in eight-column streamer "heads", and have occasionally thought of having these photographed purely for private distribution to my own friends, but have refrained from doing this for ethical reasons, and lest it be thought unfair thus to libel this stepchild of the government, who is always walking around with his hat in hand asking for more Governmental largesse, to aid in "safety", etc. But don't forget the grand old air-slogan—"Good to the last crash".

FRANKLIN SNOW

Says Richards' Criticisms Are Valid for Eastern Roads

AKRON, OHIO

TO THE EDITOR:

In the January 30 issue of *Railway Age*, there appears an article by Clarke A. Richards which expresses so clearly and forcefully my own feeling as a long time traveler, that I cannot refrain from commending him for writing it, and you for publishing it.

This article is not an exaggeration, it is not satire, but the unvarnished truth. If the railroads know what is good for them, they will reprint this article in every house organ or magazine throughout the eastern part of the United States. It applies east of the Mississippi far more than it does to the roads running farther west.

There is scarcely an incident related in the entire article which I have not myself experienced and so has every other person who travels to any extent. I often thought I would write to the railroad every time one of these incidents occurred, but when I reached home I always seemed too busy. If the railroads will only realize it, Mr. Richards has done them a real job in pointing out their shortcomings. Maybe they will do something about it.

JOSEPH B. HANAN

New Books

A National Transportation Policy, by C. S. Duncan. 315 pages, 8 in. by 5¼ in. Bound in cloth. Published by the D. Appleton-Century Company, New York. Price $3.

Dr. Duncan, who is economist for the Association of American Railroads, presents in this book a clear, concise discussion of current conditions in the transport field—and then follows through to outline a sound national transportation policy whereby the government would treat all agencies and all facilities of each agency with consistency and equity. The author points out how the five major means of transport—railroads, highways, waterways, pipe lines and airways—have evolved independently, at various times and under different circumstances; and how surplus facilities have developed to the point where "available traffic will not and cannot pay such a price" as to maintain them. Thus, the national interest requires careful and systematic readjustments and Dr. Duncan proceeds to define the issues which must be met in striking a fair balance. Included also are chapters on transport policies in foreign countries and government ownership. In drawing from this survey the outlines of a sound

transportation policy Dr. Duncan observes that however much the latter "may fall short of offering a full and final solution" the study "does demonstrate beyond question or cavil the immediate need" for such a policy. With this any unbiased reader will agree 100 per cent.

Public Utility Industries, by G. Lloyd Wilson, James M. Herring and Roland B. Eutsler. 412 pages, 9 in. by 6 in. Illustrated. Bound in cloth. Published by the McGraw-Hill Book Company, Inc., New York. Price $3.50.

The purpose of this book is to present a survey "of the economic, legal and social characteristics of public utility enterprise, together with a critical study of their organization, management, services, and rate structures." Although railroad, water, and air transportation utilities are excluded because they "are adequately covered in other texts," there are chapters on motor transportation and pipe line transportation; also the final chapter on "Combination and Co-ordination in Public Utilities" includes a section on the extent of such developments in the steam railway industry.

A Pioneer Southern Railroad, by Thomas D. Clark. 171 pages, 8 in. by 5¼ in. Illustrated. Bound in cloth. Published by the University of North Carolina Press, Chapel Hill, N. C. Price, $2.

This is the story of the beginnings of railroads which now comprise the Southern division of the Illinois Central—from New Orleans, La., to Cairo, Ill. Unlike many contemporary railway projects in other sections, which were built to connect navigable waterways, these lines were designed "to free New Orleans of the danger of becoming a victim of slow-moving river traffic." Devoting a chapter to each, the author tells of the projection, financing and construction of the New Orleans and Jackson, the Canton and Jackson, the New Orleans, Jackson and Great Northern, the Mississippi Central, the Mississippi Central and Tennessee, and the Mississippi and Tennessee. Closing chapters deal with the Civil War and reconstruction and recount interesting incidents of the early operation of the roads.

Juridical and Administrative Systems in Force on the Frontier Sections of Railway Lines and at Junction Stations. 160 pages, 9½ in. by 6¼ in. Bound in paper. Published by the League of Nations, Geneva, Switzerland. Available in the United States from the International Document Service, Columbia University Press, 2960 Broadway, New York. Price, 75 cents.

This pamphlet sets forth results of certain studies made under the auspices of the League of Nations Advisory and Technical Committee for Communications and Transit in connection with its survey of the possibilities "of drawing up standard conventions on railway frontier traffic." The task of gathering data on the subject was delegated to a committee of experts and to the League Secretariat. Their separate reports comprise Part I of this pamphlet; Part II gives the text of various conventions, treaties, etc., to which reference is made.

Public Administration and the Public Interest, by E. Pendleton Herring. 416 pages, 9 in. by 5¾ in. Bound in cloth. Published by the McGraw-Hill Book Company, Inc., New York. Price $3.75.

This book is an inquiry into the functioning of federal administrative machinery in the United States—an attempt "to analyze the relations between pressure groups and officials and to survey various efforts being made to adjust our bureaucracy to its heavy responsibilities." Such a survey is timely at present when, as the author puts it, "the government is undertaking to care for groups that are economically insecure; it is defending interests that are politically weak." In addition to these discussions of general interest railway men will find two chapters devoted to the Interstate Commerce Commission, considering in turn the I.C.C. and special interests and political pressure and the I.C.C.

Odds and Ends . . .

Gardeners

H. E. Frank, roadmaster's clerk for the Norfolk & Western at Chillicothe, Ohio, claims to have the only night-blooming cereus owned by a railroader. This rare plant is 40 years old, blooms three or four times a year, with 10 to 40 blossoms each time. Lafe Compton, retired conductor for the N. & W. at Kenova, W. Va., also claims the tomato-growing championship among railroaders. His vine, 14 ft. 8 in. high, bore 22 lb. of tomatoes, the largest 2 lb. 7 oz., last year.

Ikoomalik

The Eskimos at Churchill, Manitoba, the port on Hudson bay to which the Canadian National has been operating for the past few years, are relatively unacquainted with machinery, but the locomotives and trains fascinate them, and they come from long distances to inspect them. They have christened the various railway phenomena in their own language, the locomotive having become an 'ikoomalik', the thing that eats fire, while a train is a 'noonakartuk', the thing that runs fast over land.

The Pay Gets Through

During the recent flood, the general office building of the Louisville & Nashville was partly under water, but the employees got their pay just the same. Hiring a boat, the paymaster rode down the flooded streets and into the building, and, pulling on his oars, rowed up to the vault, opened it, and rowed inside to get the money with which to meet the payroll.

Family Service

When, on January 25, 1937, William H. Davies, treasurer of the Delaware & Hudson, celebrated fifty years of continuous service with the company, it marked the 112th year of continuous service of the Davies family with the D. & H. Mr. Davies' grandfather, John C. Davies, was employed, in 1829, on the construction of the gravity railroad from Carbondale, Pa., to Honesdale, and continued in the service of the D. & H. until his death in 1867. Edward Y. Davies, Mr. Davies' father, entered the service in the 50's and remained with the company for more than 30 years.

Small Railroads

NEWTON, KANSAS.

TO THE EDITOR:

In connection with short railroads, may I call your attention to the following list:

Massena Terminal	2	miles
Moshassuck Valley	2	"
Illinois Midland	2	"
Augusta R. R.	2	"
Dexter & Northern	1¾	"
Fore River	1¼	"

These are all listed in the Official Guide.

E. J. HAYES.

Chinese Cemetery

The Western Pacific may claim, without dispute, to be the only railway with a Chinese graveyard in its station grounds. This unusual adjunct to railway property is to be found at Winnemucca, Nev. The W. P. has a further claim to fame as the only railroad to operate over a salt bed, its tracks being laid over salt for eight miles near Wendover, Utah. A further claim to fame by the W. P. is that its subsidiary, the Deep Creek, has perhaps the smallest general office building of any railway in the world. The headquarters and general office of the Deep Creek occupy what was formerly a crossing watchman's shanty at Wendover, Utah.

NEWS

Rules for Grade Crossing Program

Set forth terms under which the states can share in $50,000,000 fund

The Secretary of Agriculture announced on February 12 the terms under which the states can share in the $50,000,000 federal fund for continuing through the next fiscal year on a permanent basis the program of eliminating hazards at railroad grade crossings. The funds, authorized by the act of Congress of June 16, 1936, were apportioned among the various states by the Secretary on December 29, and become available for expenditure on July 1. The Bureau of Public Roads will administer the funds in co-operation with state highway departments. These new funds are in addition to the initial appropriation of $200,000,000 of emergency funds under which grade crossing elimination work is now under way and will be expended in much the same way.

Five types of grade crossing elimination and protection developments are eligible: (1) Separation of grades at crossings; (2) installation of protective devices at grade crossings; (3) reconstruction of existing grade separation structures; (4) relocation of highways to eliminate grade crossings; and (5) relocation of railroads to eliminate grade crossings. The funds are available to pay the cost of construction exclusive of cost of rights of way or property damage, and can be spent either on rural highways or on city streets.

To insure a fair distribution of benefits among the railroads in each state, the regulations require that improvements shall be divided among the various railroads so that the amount expended on each shall be approximately in proportion to its mileage. On each railroad crossings of the greatest hazard to traffic are to be selected for elimination or protection. Initiative in selecting projects for improvement rests with the state authorities who will prepare programs, and submit them to the Bureau of Public Roads for approval.

Where legal authority exists in a state for the physical closure of railroad grade crossings and where, by the construction of a grade separation structure with adequate approaches the use of an existing grade crossing structure is rendered unnecessary for the convenience of the general public, the regulations require that approval of a project for the construction of a grade separation structure shall be contingent upon prior provision for the physical closure of such grade crossing or crossings after completion of the new structure. Any lateral connection necessary to accomplish the physical closure of such existing grade crossings may be included as part of a project and paid for with grade crossing funds.

I. C. C. Secretary Dies

George B. McGinty, who has been secretary of the Interstate Commerce Commission since 1913, died at his home in Washington, D. C. on Tuesday. He had been in poor health for some time, but relinquished his duties at the commission only a few days ago. Mr. McGinty was born September 8, 1878 in Monroe County, Ga. At the age of 19, after attending Emory College, he went to work for the Georgia Railroad and was employed successively by the Atlantic Coast Line, Southern and West Point Route. He was traveling passenger and freight agent for the latter when he joined the I. C. C. staff. A graduate of the ranks, Mr. McGinty had been commission secretary for 24 years. He came with the commission in 1908, was appointed attorney examiner in 1911, assistant secretary in 1912 and then in 1913 became secretary.

Russell Proposes Rates on Mileage Basis

Senator Richard B. Russell of Georgia has introduced a concurrent resolution in the senate proposing to place all railroad rates throughout the United States on a mileage basis.

Overland Limited Time Shortened

The Chicago & North Western-Union Pacific have reduced the schedule of the San Francisco Overland Limited between Chicago and San Francisco, Calif., 36 min., or to 60 hr. 12 min. The train leaves Chicago at 10:21 p. m., instead of 9:45 p. m., and arrives in San Francisco at 8:32 a. m. the third morning as at present.

Huge Sign Advertises Streamliner

A huge sign 65 ft. by 85 ft. and illuminated with 150,000 watts has been erected by the Chicago & North Western-Union Pacific at Michigan and Randolph streets, Chicago, to advertise their streamline trains. Lamps and luminous tubing depict the train in motion, while from its headlight a beam of light flashes across Grant park. A motograph message, which is changed frequently, accompanies the train, telling of service westward.

Jan. Truck Freight Above Last Year

A.T.A. begins publication of series of monthly surveys of truck loading

American Trucking Associations, Inc., has begun publication of a series of monthly surveys of truck loadings, based on reports from leading motor carriers. The first such survey issued this week for the month of January, was based on reports from 128 carriers transporting various commodities in 32 states, which transported 220,322 tons during the month. This is compared in the statement, not with the tonnage for January, 1936, but with the 1936 monthly average freight loading, 215,521 tons which is taken as an index of 100. The January, 1937, loading represents an increase of 2.2 per cent over the monthly average.

The greatest number of reports came from general merchandise haulers, approximately 75 per cent of the total tonnage. By classes of freight, the index numbers for the last month were: General merchandise, 103.25; household goods, 95.2; petroleum, 71.3; steel, 105.7; refrigerated products, 87.7; dairy and agricultural products, 107.7. Information was solicited on textiles, automobiles, lumber, granite, and leather, but the replies were too scattered to indicate a definite trend. In the case of household goods carriers, operating on a cubic foot basis, an average of seven pounds per cubic foot was taken to convert density reports to a weight basis.

Although the January increase was only 2.2 per cent, it was pointed out that this gain was made despite unsettled labor conditions throughout the country and the general cessation of business in the middle western flood area. In many sections the first month of the year usually is lean, as far as movement of freight is concerned, some truckmen reported.

Railway Employment in January

The Bureau of Statistics of the Interstate Commerce Commission has announced that the total number of employees of Class I railroads at the middle of the month of January was 1,075,665, which was an increase of 9.55 per cent above the figure for January, 1936. The maintenance of equipment and stores group showed an increase of 11.47 per cent over January of last year, and the number in the transportation group (train and engine service) increased 12.92 per cent over last year.

Orders Southern Class Rate Probe

I.C.C. announces inquiry into intraterritorial and interterritorial charges

The Interstate Commerce Commission on February 16 announced an investigation into the interstate class rates and the charges resulting therefrom now in effect within southern territory and between southern territory and official territory, with a view to determining whether such rates are unjust, unreasonable, unduly prejudicial, unduly preferential or otherwise in violation of the Interstate Commerce Act, official territory being defined for the purpose of this proceeding as the same territory as that for which class rates were prescribed in *Eastern Class Rate Investigation*, 164 I. C. C. 314, and southern territory being defined as bounded on the north by the line of the Virginian from Norfolk, Va., to Roanoke, Va., the line of the Norfolk & Western between Roanoke and Kenova, W. Va., and the Ohio river between Kenova and Cairo, Ill., and on the west by the Mississippi river between Cairo and the Gulf of Mexico, including, however, west-bank Mississippi river gateways in Arkansas and Louisiana, provided that this definition shall not be understood as bringing within the scope of the proceeding such class rates subject to official classification as now apply from, to or between points in southern territory as herein defined.

The investigation was ordered upon consideration of a petition filed September 25, 1936, by the Joint Conference of Southern State Commissioners and Shippers and of similar petitions filed by regulatory authorities of southern states, commercial organizations and shippers praying that the commission institute an investigation of the intraterritorial class rates in effect within southern territory, and upon consideration of communications from commercial organizations and shippers in official territory expressing the view that the interterritorial class rates now in effect between official and southern territories are unjust and unreasonable, and urging that any investigation of the southern intraterritorial class rates should be broad enough to permit consideration of related interterritorial class rates in the same proceeding. The commission will decide at a later date where the hearings will be held and the dates of the hearings.

Some time ago the commission decided to grant the request, but, having in mind the fact that the interterritorial class rates between official and southern territories were closely related in method of construction to the southern intraterritorial class rates and being aware of dissatisfaction with the interterritorial rates among a number of shippers, the commission on November 20, 1936, issued a public notice inviting comments on the proposal of an investigation limited to the southern intraterritorial rates. A large number of communications in response to that notice were received. From these it appears that, although there is a difference of opinion as to the desirability of broadening the investigation to include the interterritorial rates, a considerable number of shippers, particularly in official territory, consider the present interterritorial rates unreasonable and might be adversely affected if changes were to be made in the intraterritorial rates without contemporaneous modification of the interterritorial rates. The commission is of the view that such testimony as these shippers may wish to present in criticism of the interterritorial rates is highly germane to the question of the related intraterritorial rates, and that if it should be found that changes should be made in the latter rates it would be impossible to do complete justice without requiring a readjustment of the interterritorial rates at the same time. Accordingly the investigation has been framed to include the interterritorial rates. Although, the announcement points out, this will necessarily result in a larger record than would probably be involved in an investigation limited to the intraterritorial rates, it will obviate the possible necessity of a subsequent separate investigation of the interterritorial rates, and thereby time will probably be saved in the long run.

It is probable that the opening hearing will be held in the southern territory, and that such hearing will be limited to evidence concerning intraterritorial rates.

Bentley Discusses Accident Prevention Work

Accident prevention work on the railroads was discussed by L. G. Bentley, general safety agent of the Chesapeake & Ohio and chairman of the A.A.R. Safety Section's committee on education, in an address before the Richmond (Va.) Traffic Club on February 15. Mr. Bentley pointed out how the Safety Section, with the co-operation of the individual roads, is teaching both officers and employees that "there is but one way of doing any job from president to section hand—the right way which is always the safe way."

He continued to cite results of the past 12 years during which, he said, the number of causes resulting in fatal injuries to passengers was reduced from 21 in 1923 to six in 1935; and the number of causes of fatal injuries to train service employees was reduced from 173 to 89. He also referred to the record for 1935 when only one passenger was killed in a train accident—the case of the explosion of a heater in a car standing on a siding.

The speaker further observed that whenever an employee has been mentally trained to protect himself and his fellow-employees, he cannot be other than a more careful employee in relation to property damage, efficiency, economy and general esprit de corps. This, he continued, together with the installation of better equipment, better track and ready co-operation on the part of the public in carefully loading, storing and packing of commodities offered for transport, resulted in reducing the freight claim loss and damage per revenue car loaded from $1.11 per car in 1922 to 60 cents per car in 1935, thus affecting a saving of $31,000,000 in loss and damage.

Grapefruit Growers Rate Plea Rejected

Traffic officers' conference denies request for temporary emergency reduction

Pointing out that the present rates on grapefruit from Florida to Official Classification Territory are uniformly 20 cents per hundred pounds below the reasonable basis required by the Interstate Commerce Commission, a joint conference of chief traffic officers representing the eastern, western and southern railroads, in session at Chicago on February 12, denied the request of the Florida grapefruit producers and marketers for a temporary emergency reduction in the rates on grapefruit to a basis of 50 per cent of the maximum reasonable rates which the Interstate Commerce Commission ordered to be established in 144 I.C.C. 603. In giving their reasons for the denial the traffic officers showed that on shipments of grapefruit to Official Classification Territory the railroads are now earning $72 per car less than the commission found would be reasonable. They also stated that they did not feel that the carriers could bear the burden of reduced rates at this time in view of the fact that many of the railroads are either in bankruptcy or receivership and that the extension of surcharges had been denied, thus decreasing the revenues of the roads by $10,000,000 a month. The increase in expenditures of certain roads due to flood conditions was also mentioned.

The statement adds that "this proposal presents a new philosophy in rate treatment in that it involves a reduction in rates predicated on the single fact that there exists this season the largest grapefruit production in history, with the result that the market under the law of supply and demand has reached a point where the product cannot be profitably marketed." The railroads do not feel that this proposed reduction would increase the consumption or the price of grapefruit, since, as they point out, "experience proves the truth of that principle of economic law which holds that in a buyers' market a reduction in transportation charges is inevitably absorbed by the buyer."

Combatting the argument that the present situation is an emergency one, the railroads produce estimates of the Department of Agriculture which show that the present crop of 28,000,000 boxes is more nearly a normal one in view of the fact that the productivity of trees in Florida is increasing yearly so that the annual production may easily reach 30,000,000 boxes. The reason for the surplus, according to the railroads, is the fact that growers have been increasing their supply without providing for a consuming market capable of absorbing the increase. The railroads also contend that even if the reduction were granted it would not be satisfactory because the California growers would contend that they were entitled to a reduced rate on oranges which directly compete with grapefruit, thus upsetting the whole rate structure on citrus fruits.

Dispatchers Asking Six-Hour Day Limit

Bill introduced on February 11 by Senator Neely of West Virginia

A bill proposing to establish a six-hour day for train dispatchers and to limit the hours of service of train dispatchers employed by carriers engaged in interstate commerce was introduced in Congress on February 11 by Senator Neely, of West Virginia, as S. 1492. The bill proposed by the Railway Labor Executives' Association providing for a six-hour day for railroad employees generally introduced in the House on February 5 by Representative Crosser was changed from the form it was in at the last session of Congress to make an exception of train dispatchers because the latter desire a six-hour day limit while the other bill contains no hour limitation but provides that six hours, at the present pay for eight hours, shall be the measure or standard of a day's work for the purpose of reckoning compensation, at the present pay for eight hours.

The train dispatcher bill would make it unlawful to require or permit a dispatcher to be on duty for more than six hours in any 24-hour period, except in case of emergency and for an additional 15 minutes whenever necessary for the purpose of transfers and that chief train dispatchers, assistant chief dispatchers, and night chief dispatchers may be permitted to work eight hours in a 24-hour period, plus 15 minutes if necessary for transfers. These periods would also be the measure for a day's pay, and there is a provision that pending a revision of existing contracts the compensation for a day shall not be reduced below the present figure.

The bill states that "inasmuch as the fatigue of train dispatchers due to the long hours of service for which they are at present employed imperils the safety of the agencies and persons engaged in the performance of such commerce and of the passengers and freight transported therein, this statute is enacted as a regulation of interstate commerce and for the purpose of eliminating such existing perils."

Club Meetings

A group of 15-minute talks on "Integral Parts of the Locomotive" comprised the program at the February 11 meeting of the Pacific Railway Club held in the Palace Hotel, San Francisco, Cal. Among the speakers were: S. G. Down, president, Westinghouse Air Brake Company; John L. Baker, manager of sales, Valve Pilot Corporation; Victor W. Ellet, president, Hunt-Spiller Manufacturing Corporation; Damon Wack, American Brake Shoe & Foundry Company; H. B. Crocker, Dearborn Chemical Company; Thomas C. McBride, consulting engineer, Railroad division, Worthington Pump & Machinery Corporation; C. H. Butterfield, manager of Railroad Sales division, Consolidated Ashcroft Hancock Company; W. R. Walsh, vice-president, Ewald Iron Company; R. M. Ostermann, vice-president, Superheater Company; and H. S. Wall, mechanical superintendent, Atchison, Topeka & Santa Fe.

W. A. Curtis, squadron leader of the Royal Canadian Air Force, will speak on "Canada's Part in Aviation" at the February 22 meeting of the Toronto Railway Club to be held at the Royal York Hotel in that city.

The next meeting of the Northwest Car Men's Association will be held on March 1 at the Midway Club, 1957 University Avenue, St. Paul, Minn. Howard Hayes, general storekeeper of the Great Northern, will discuss "The Stores Department—Its Relation and Functions to the Mechanical Department and Other Users of Material and Supplies."

The Car Foremen's Association of Omaha will hold its next meeting at 1:30 p.m. on March 11 in the office of the Union Pacific general car foreman at Council Bluffs, Iowa. F. M. Rezner will discuss the handling of pig lead.

8,078 Air-Conditioned Cars on January 1

The railroads and the Pullman Company on January 1 had 8,078 air-conditioned passenger cars in operation, according to a statement issued by J. J. Pelley, president of the Association of American Railroads. Since April 1 last more than 1300 passenger cars have been equipped with air-conditioning devices.

Of the total number of passenger cars which have been air-conditioned, the railroads on January 1 had 3,926, which included 2,293 coaches, 885 dining cars, and 748 other types of passenger equipment. The Pullman Company had 4,152 air-conditioned passenger cars in service, which included sleeping cars, lounge cars and other passenger equipment.

The Equipment Research Division of the association, last summer and fall, conducted an exhaustive investigation into this subject with a view of ascertaining what further improvements can be made and what can be done towards further standardizing air-conditioning devices in order to reduce the costs of installation and maintenance. A preliminary report on this investigation was recently submitted to the board of directors and this will be followed later by a more comprehensive engineering report.

German Railroad Calendar

The German Railroads calendar for 1937 is, as it has been in previous years, an unusually attractive booklet. On each of its 160 pages appears a photograph depicting some phase of transport operations in that country. Included are views of passenger and freight trains, shop and other facilities, as well as of scenes along the railway lines. Also, there are a few pictures of co-ordinated bus and truck operations and highway equipment.

Accounting Officers to Meet at Atlantic City

Members of the Accounting Division of the Association of American Railroads will hold their annual convention at the Hotel Traymore, Atlantic City, N. J., on June 2-4.

Board Considering C.G.W. Controversy

Receives presentations made on behalf of "big five" and the road

The emergency board appointed by President Roosevelt to settle differences between trustees of the Chicago Great Western and the "big five" brotherhoods over $60,000 in overtime compensation claims began hearings at the Hotel Stevens, Chicago, on February 15. J. B. Farrell, vice-president of the Brotherhood of Locomotive Firemen and Enginemen, presented a brief on behalf of the brotherhoods asking the emergency board to sustain the action of about 1,800 employees of the railroad, who were scheduled to go on strike on February 9 unless satisfactory settlement was made by the trustees on the overtime awards made last July by the national railway adjustment board.

Luther M. Walter, one of the trustees of the Great Western, cited the recent opinion of Federal Judge Charles E. Woodward, who instructed the trustees not to pay the claims. The court held, he said, that the employees could file a claim against the railroad, which is in process of reorganization, or file civil suit to collect the awards. Mr. Walter also discussed the threatened strike action, pointing out that only 90 men were involved in the claims and that approximately 1,800 men were going to walk out.

John P. Devaney, chief justice of the Minnesota supreme court is chairman of the emergency board. The other members are Walter C. Clephane, Washington (D. C.) attorney, and Harry A. Millis, professor of economics at the University of Chicago. The board will report to President Roosevelt within 30 days.

Revenues Increase in January

Preliminary reports from 91 Class I railroads, representing 91.2 per cent of total operating revenues, made public by the Association of American Railroads, show that those railroads in January had estimated operating revenues amounting to $272,881,592, compared with $249,210,826 in the same month of 1936 and $364,946,961 in the same month in 1930. Operating revenues of those roads in January, 1937, were 9.5 per cent above those for January, 1936, but 25.2 below January, 1930.

Freight revenues of the 91 Class I railroads amounted to $220,385,446 in January, 1937, compared with $200,144,599 in January, 1936, and $275,097,935 in January, 1930. Freight revenues in January, 1937, were 10.1 per cent above the same month of 1936, but 19.9 per cent below the same month in 1930.

Passenger revenues, according to the preliminary reports, totaled $31,083,341 in January, 1937, compared with $28,757,813 in January, 1936, and $58,165,433 in January, 1930. For the month of January, 1937, they were 8.1 per cent above the same month of 1936, but 46.6 per cent below the same month in 1930.

Henry Discusses Public Relations

Assistant to A.A.R. president addresses the Western Railway Club

Under the title "This Is Our Story," Colonel R. S. Henry, assistant to the president, Association of American Railroads, Washington, D. C., addressed the February 15 meeting of the Western Railway Club, Chicago, describing the efforts of the association to continue the work of creating a more favorable public opinion toward railroads, and explained some of the reasons why this improved sentiment is well merited.

Colonel Henry defined public relations as "the sum total of the contacts of railroad men in all branches of the service with all members of the shipping and traveling public," thus emphasizing the need of supplementing ordinary public relations activities, important as they are, by the even more important factor of "service plus, with a smile" in every contact which railroad men make with their customers, the public. Colonel Henry said that contrary to popular belief, the railroads have not recently waked up to the possibilities of modern service, for they have made notable improvements in recent years, equaling or exceeding those in any other industry. He called attention to another misconception; namely, that *water* transportation is always *cheap* transportation, and said that traffic handled by rail at a cost of less than one cent a ton mile is the cheapest and most efficient type of land transportation. In connection with inland waterways, Colonel Henry set up the figures for canal construction and maintenance costs on a mileage basis, which was even more impressive than tremendous overall cost figures which have come to be rather meaningless to the general American public. Following Colonel Henry's address, a vocal film, prepared by the Association of American Railroads and presented through the courtesy of the Milwaukee railroad, was shown.

Continued Progress Requires Fair Deal for Capital

Fair treatment of capital and a moratorium on restrictive legislation are prime requisites to the continuation of railway progress, according to the view of R. C. Morse, vice-president, Eastern region, Pennsylvania, who spoke at the annual meeting of the Wilmington (Del.) Traffic Club in that city on February 11.

Mr. Morse sketched recent advances in railway transportation, pointing out how the carriers emerged from their post-war difficulties to offer cheaper and better services adapted to the present-day needs of shippers and travelers. He added, however, that the railroads are still "far from the ideals and ambitions of those who know their full possibilities." Continuing to point out how technical progress requires capital, Mr. Morse observed that capital "is timid, has a long memory, and a keen sense of self-preservation. It cannot be conscripted and after it is obtained, it must be treated fairly." Thus in order to attract the capital necessary to continue improving its service and reduce its cost, the railway industry "must be freed from artificial restraints and from the artificial stimulation of its competitors."

As for legislative measures such as "make work" bills, Mr. Morse said that the present disposition of legislative bodies "to select the railroad industry for all sorts of weird experimentation" is another factor which may seriously interfere with the progress of the carriers. He warned that to accept the theory of putting men to work by requiring railroads to increase their forces "may soon be reflected in ways to load your stores, factories and shops with surplus man-power. The seed is already planted and the idea must be rooted up before it can grow into an unwholesome realization."

The future development of the railroads, Mr. Morse concluded "lies in the hands of the American people. Every user of railroad service has a common stake with the investor, the employee, and with railroad management in the removal of barriers which might prevent or retard progress. Consideration of immediate self-interest should be put aside for the greater benefits to be derived from lending aid in the common cause of the development of national policies designed to strengthen the capacity of the railroads to serve."

I. C. C. Declines to Change Interest on Reparation

Division 3 of the Interstate Commerce commission has declined to reduce the 6 per cent interest rate which it has consistently allowed for years in making awards to shippers for the damages suffered by overcharges. The Delaware & Hudson asserted that 6 per cent interest applied by the commission had become excessive by reason of changes in economic conditions and that the rate should not exceed 2 per cent. The commission in its report said that for the past 30 years it had consistently allowed interest at 6 per cent and that its findings to that effect have been judicially noticed by the courts which have refused to disturb that interest basis and that the record was not convincing that any lower rate should be authorized in the instant proceeding.

Pay-As-You-Go Plan for Cotton Belt Approved

A ruling by the United States District Court, approving a "pay-as-you-go" policy for the St. Louis Southwestern in purchasing new equipment out of current revenue, was affirmed on February 16 by the Eighth United States Circuit Court of Appeals. Previously the district court had given the trustee authority to spend $1,050,000 from earnings for new equipment.

Chicago Traffic Club Dinner

The thirtieth annual dinner of the Traffic Club of Chicago will be held on February 25 at the Palmer house. The principal speaker will be G. W. Dyer, professor of economics and sociology at Vanderbilt university.

Propose Contract Rates in Canada

New regulatory bill would inaugurate British plan of "agreed charges"

"I am convinced that in the interests of all transportation we must do one of two things, either do away with regulation of the railways or apply regulation generally to their competitors," declared Hon. C. D. Howe, Minister of Transport, in explaining to the Dominion Senate Committee on Railways, Telegraphs and Harbors at Ottawa last week the central features of his all-inclusive transport regulatory bill.

Two features of the measure are the system of licensing as a means of regulating freight rates on the inland waters and the incorporation into this legislation of the contract rate scheme in the British law enacted in 1933. The larger steamship companies operating on the Great Lakes welcome the legislation as an escape from ruinous rate wars, while Western grain shippers fear it will mean the substitution of a minimum rate for the present so-called maximum rate and the destruction of the competitive element.

While the government is not taking too seriously those provisions of the bill which seek to control highway traffic that is inter-provincial, there will be plenty of opposition from the provincial governments who fear the slightest move in a direction which might infringe on their jurisdiction, their jealousy of provincial rights being as intense as the feeling about State rights across the border.

Mr. Howe's brief introductory statement to the Senate committee contained these points:

"There has been a good deal of comment to the effect that this bill is sponsored by the railway companies to protect themselves. That is not my understanding of the situation, and I think it can hardly be accepted as the reason for its introduction. It is not the intention that by this bill one industry shall be regulated in favor of another industry. The intention is that regulation shall be applied to each industry in the interests of that particular industry and having in mind, of course, the protection of the public that uses the industry. But, I repeat, it is not a bill designed to protect one industry against a competing industry.

"That situation, I think, existed up to about 1920, but since then it has entirely changed. The railway is no longer the dominating factor in transportation; in fact I suppose it carries less than 50 per cent of the freight and passengers that are moved in Canada today. The automotive industry has grown very rapidly indeed and has become a very important factor in transportation.

"The completion of the Welland canal released a great number of freighters; that is, owing to the longer haul of the larger freighters a great number of the smaller freighters were released from that service and more or less turned loose to compete for traffic that they had never previously

thought of carrying. So that to-day the steamships and the motor transports are much greater factors in the general transportation problem than they have ever been before.

"I am pretty well convinced that in the interests of all transportation we must do one of two things, either do away with regulation of the railways, or apply regulation generally to their competitors.

"The first departure in this bill is to regulate transportation by water. I may say that it is not the intention to apply this regulation to coastwise shipping on the two oceans. I think there is no great demand for it there and no particular reason why it should be applied.

"Like the Railway Act, this bill does not give the Board power to initiate rates; it can simply approve or disapprove of rates filed by the carrier. It is provided that a trading licence shall not be issued to a ship imported into Canada, which, at the time of importation, is over ten years old. That does not apply to ships now in service. In the last three or four years there has been a tremendous dumping of obsolete American tonnage into Canada.

"With regard to transport by air, we are practically at the commencement of a new development, perhaps, the start of interurban flying. That is flying between cities, with proper landing fields, with a radio beam, with weather reports, all supplied by the Government. I think we should start regulation with the commencement of the industry.

"Now we come to transportation by highway. Under present conditions I think we can do little. On the other hand, I am told that the regulation of interstate traffic in the United States has had a beneficial effect both in the industry and in satisfying the customers of the industry. The complaints I have to-day, and they are many, are usually from the customers who object that they have no way of knowing what their competitors are paying for freight haul by truck. I doubt if we can do anything about it at the moment. The provinces are quite jealous of their prerogative with respect to highway traffic in the provinces. In Canada interprovincial traffic is not as important as interstate traffic is in the United States. Our provinces are larger in area than the states, and there is less traffic between them. However, I think we should take the power.

THE CONTRACT-RATE PROPOSAL

"Part VI introduces a new feature, one that has been adopted in England and has met with a great deal of success there. It gives permission for a carrier to contract with a customer for the carriage of its goods at a rate which is a departure from the tariff rate. The contract can only be made with the approval of the Board, and it would apply to an industry that perhaps uses two or three types of carrier for distribution of its produce. These sections give it permission to contract with one carrier for the exclusive carriage of its produce. As I say, the procedure is new on this continent, but it is in universal and successful application in Great Britain. I believe it applies to the conditions of transportation that we have to-day, and that it will be a forward step in allowing carriers to handle their business.

"The situation to-day is that the railway is expected to be a sort of standby for a great many industries. A great many industries ship one hundred per cent, say, by truck in summer months, or by boat, and come back to the railway only for the winter haul. Well, it is hardly fair to maintain a railway as a standby. Yet, a good many lines are being maintained as standbys to-day. Our feeling is this: let such industries contract with one or other type of carrier. If they want to use the trucks, let them contract with the trucks and let us take up the railway; on the other hand, if they want to contract with the railway, let them do that."

1937 Equipment Programs in Britain

British railways have authorized the construction during 1937 of 532 locomotives, 2,000 passenger-train cars and 34,000 freight cars. Included in the locomotive total are 17 of streamline design, being constructed by the London & North Eastern to haul its new "Coronation" streamline trains between London and Edinburgh. Names of birds are to be given to these new locomotives, the first five being "Golden Eagle," "Falcon," "Merlin," "Kingfisher" and "Kestrel."

January Locomotive Shipments

January shipments of railroad locomotives, according to reports received by the U. S. Department of Commerce from the country's principal manufacturing plants, totaled 17 locomotives, including 14 steam and 3 Diesel-electrics. No locomotive shipments were reported for January, 1936, while in January, 1935, there were 13—7 steam, 5 electrics and 1 Diesel-electric. Unfilled orders at the close of January totaled 387 locomotives, including 356 steam, 20 electrics and 11 Diesel-electrics, as compared with unfilled orders for 37 (4 steam, 20 electrics and 13 Diesel-electrics) as of the close of January, 1936.

National Association to Direct Claim Prevention Month

The National Association of Regional Advisory Boards was formed at a meeting of representatives of shippers and railroads at Chicago on February 16, to direct activities during loss and damage prevention month in April. Officers elected are: President, Charles Donley, traffic counsellor at Pittsburgh, Pa.; vice-president, L. M. MacPherson, traffic manager of the American Seating Company, Grand Rapids, Mich.; and executive secretary, Scott Ennis, president of the California Fruit Exchange, San Francisco, Calif.

To carry out the promotional work, a management committee was appointed consisting of the chairmen of the freight loss and damage prevention committees of the 13 regional shippers' advisory boards. T. C. Burwell, vice-president of the A. E. Staley Manufacturing Company, Decatur, Ill., was named chairman of that committee. In addition, a publicity committee was appointed to work with the management committee and to focus national attention on the activities of shippers and railroads in reducing economic waste through the prevention of loss and damage. William E. Hall, head of the information section of the Association of American Railroads, was appointed chairman of this committee.

To Restore Trans-Andean Line

President Justo of Argentina has signed a decree ordering the reconstruction of a 77-mile gap in the Trans-Andean railway line, which was washed out by glacial floods in 1934, according to recent press reports from Buenos Aires. It is estimated that an expenditure of more than $2,000,000 will be required to repair the line and restore direct rail communication between Argentina and Chile. The decree also authorizes the Argentine State Railways to negotiate with British owners for the purchase of the Argentine section of the transcontinental line. The Chilean government already owns the section in that country. The report states that since the break in the line trucks have attempted to carry freight, but service has suffered severely and Argentine-Chilean trade has declined.

Extension of Pension Tax Law Proposed

The House ways and means committee on February 11 submitted to the House a favorable report on H. J. Res. 212 extending to June 30, 1938, the provisions of the law levying an excise tax on the railroads and an income tax upon their employees for the purpose of paying the retirement annuities provided for in the railroad retirement act. This part of the act has been enjoined by the district court for the District of Columbia and by its terms would expire by limitation on February 28. The committee report points out that it was not contemplated that these taxes would be allowed to expire, and that the time limitation was placed in the original bill so that the rate of tax might be adjusted after investigation. Such an investigation has not been completed but the report says it is expected that before the end of the fiscal year 1938 the necessary data will have been made available to enable Congress to determine the rate of tax that it will be necessary permanently to impose in order to raise the amount of revenue required.

Grade Crossing Accidents in November, 1936

Fatalities resulting from accidents at highway-railroad grade crossings were greater in November, 1936, than in any month since January, 1929, according to the Safety Section, Association of American Railroads. The total for November was 243, an increase of 65 compared with October and of 69 compared with November, 1935. Fatalities from such causes in January, 1929, numbered 249.

Reports showed that 496 accidents for the most part involving motor vehicles took place at highway-railroad grade crossings in November, an increase of 53 compared

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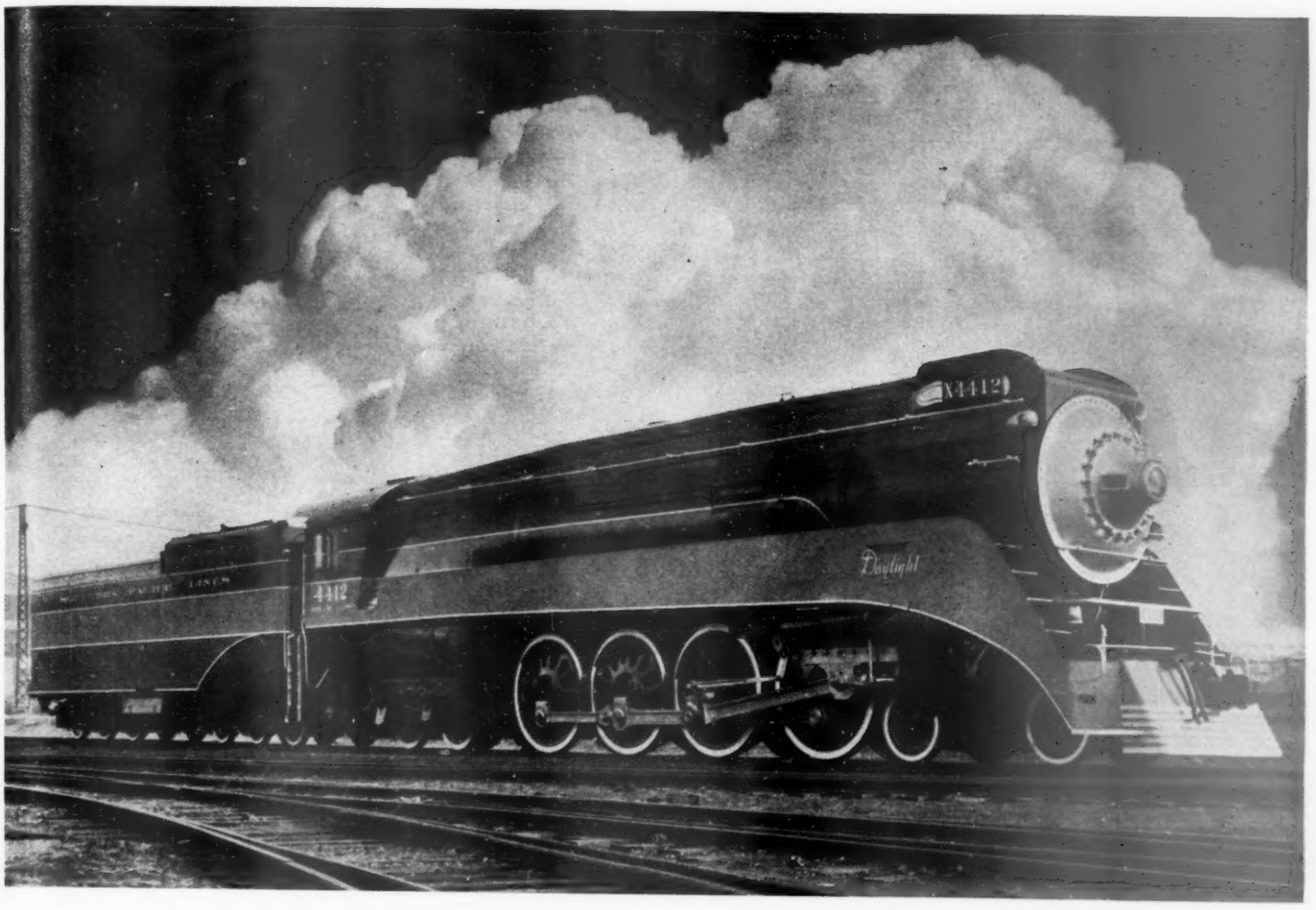

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LIMA LOCOMOTIVE WORKS, INCORPORATED

for

THE SOUTHERN PACIFIC COMPANY'S

Daylight SPECIALS

LIMA
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with the previous month, and of 84 compared with November, 1935. Persons injured in such accidents in November totaled 586 compared with 488 in October, and 486 in November, 1935. Fatalities resulting from highway-railroad grade crossings in the first 11 months of 1936 totaled 1,561. This was an increase of 101 compared with the corresponding period in 1935, while 4,340 were injured, an increase of 288 compared with the same period in the preceding year. In the first 11 months of 1936 there were 3,742 highway-railroad grade crossing accidents compared with 3,408 in the first 11 months of 1935.

Analysis of highway-railroad grade crossing accidents in the first half of 1936 showed that 89 per cent involved either passenger automobiles, buses or trucks.

Electrification Project on L.N.E. in London

The London & North Eastern of Great Britain and the London Transport Board are carrying out a joint program for improved services in northeast London. The program, which will involve an expenditure of £14,500,000, provides for the extension of the London tube eastward from Liverpool street and its projection over certain surface lines of the L.N.E.; also the electrification of L.N.E. lines between Liverpool street and Shenfield, and between Fenchurch street and Stratford. The extension of the London tube will involve the construction of approximately 9½ miles of double track and three new stations, while three L.N.E. stations will be reconstructed to accommodate tube trains and 25 route miles of L.N.E. surface lines will be electrified. The program is expected to be completed in about three years.

Pick "Hot Spots" in Supply Work

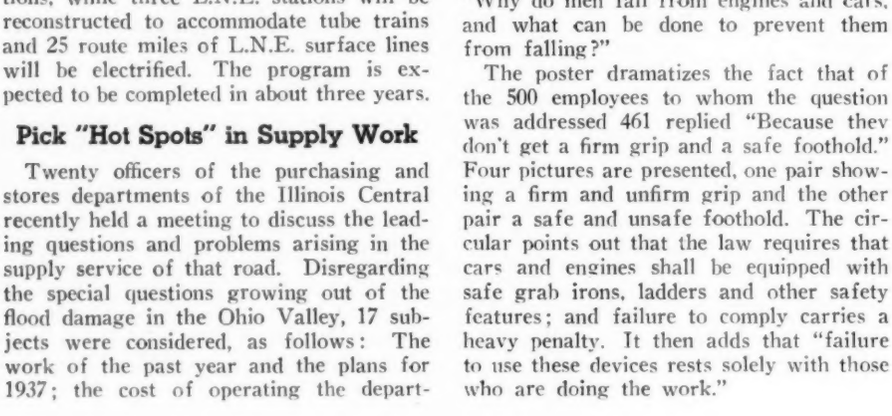
Twenty officers of the purchasing and stores departments of the Illinois Central recently held a meeting to discuss the leading questions and problems arising in the supply service of that road. Disregarding the special questions growing out of the flood damage in the Ohio Valley, 17 subjects were considered, as follows: The work of the past year and the plans for 1937; the cost of operating the department and its various branches; expense involved in handling materials; co-operation between the different units of the department; sale of used material scrap and salvaged parts; the change in prices on castings and other material; losses in 1936 due to failure to return wire reels, containers, cement sacks, etc.; the advisability of buying cement in paper bags instead of cloth bags; the purchase of Class A and Class D lumber for crossing planks and platforms; the annual inventory taken October 31, 1936; the distribution of material for the 1937 car program; the handling of scrap from cars dismantled in 1937; the improvement of stock books and surplus reports; charges from other departments to store expense and store department charges to other departments for services rendered; the Railroad Retirement and Social Security acts; personal injuries and accident prevention measures; and the solicitation of business for the railroad. The conference was in charge of A. C. Mann, vice-president.

Safety Lesson on "Falling from Cars"

The Committee on Education of the Safety Section, Association of American Railroads, is devoting its March circular and poster to the subject of injuries to employees due to "falling from cars." The material presented in the circular was compiled from replies of more than 500 train service and shop employees throughout the United States and Canada to the question "Why do men fall from engines and cars, and what can be done to prevent them from falling?"

The poster dramatizes the fact that of the 500 employees to whom the question was addressed 461 replied "Because they don't get a firm grip and a safe foothold." Four pictures are presented, one pair showing a firm and unfirm grip and the other pair a safe and unsafe foothold. The circular points out that the law requires that cars and engines shall be equipped with safe grab irons, ladders and other safety features; and failure to comply carries a heavy penalty. It then adds that "failure to use these devices rests solely with those who are doing the work."

* * * *



One of Three 600-hp. Diesel Electric Switching Locomotives Built for the Boston & Maine by the Electro-Motive Corp.

Equipment and Supplies

LOCOMOTIVES

PICKANDS, MATHER & Co., have ordered one 0-8-0 switching locomotive, from the Baldwin Locomotive Works.

THE ELGIN, JOLIET & EASTERN has ordered six Diesel-electric locomotives from the Electro-Motive Corporation.

THE MICHIGAN LIMESTONE COMPANY has ordered two Alco Diesel switching locomotives of 600-hp. each, from the American Locomotive Company.

THE SANTA BARBARA-VIGIA (VENEZUELA) has ordered one 2-4-4 type tank locomotive, from the Baldwin Locomotive Works. Felipe Sintjago, mechanical superintendent, Santa Barbara, Venezuela.

ST. LOUIS SOUTHWESTERN.—Affirming the decision of the district court the circuit court of appeals at St. Louis has approved the purchase by this road of 5 locomotives of the 4-8-4 type and 10 air-conditioned coaches.

CHICAGO & NORTH WESTERN.—The district court at Chicago has authorized this road to purchase 8 streamlined locomotives from the American Locomotive Company. Inquiry for this equipment was reported in the *Railway Age* of January 2.

FREIGHT CARS

THE LEHIGH VALLEY will build 20 caboose cars in its own shops.

THE PHELPS DODGE CORPORATION has ordered 30 dump cars of 30 cu. yd. capacity, from the Differential Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of January 9.

PASSENGER CARS

THE CHICAGO, BURLINGTON & QUINCY has ordered 4 coaches and 2 coach-dinette cars of light-weight stainless steel construction from the Edward G. Budd Manufacturing Company. The 4 coaches will be used with conventional equipment operated on the "Fort Worth & Denver City" between Denver, Colo., Fort Worth, Texas, and Dallas; the 2 coach-dinette cars will be used in the "Twin Cities Zephyrs."

Construction

PENNSYLVANIA.—This road has let contracts for electrifying its line from Paoli, Pa., to Harrisburg to the following contractors: Arundel Corporation, Baltimore, Md.; McCloskey & Company; Vare Construction Company; James McGraw Company, and Loucheim, Brown & McDonough, all of Philadelphia, Pa.

Supply Trade

Eugene Weiss, Jr., has been placed in charge of railway sales for the **Erman-Howell Company, Inc.,** to succeed **William Page,** who has resigned.

The Westinghouse Electric & Manufacturing Company, about May 1, will move its Pittsburgh, Pa., office and some of its general offices now located at East Pittsburgh, to the Union National Bank building in Pittsburgh.

Eugene Brandeis has been elected a vice-president of **Thomas J. Crowley, Inc.,** New York. Mr. Brandeis, who was formerly president of the Lundie Engineering Corporation, will have his headquarters at New York, and will be in charge of track specialty sales.

William Page, who has been in charge of railway sales for the **Erman-Howell Company, Inc.,** Chicago, has joined the sales organization of the **Hyman-Michaels Company,** Chicago.

Daniel J. Saunders has been appointed manager of railway and industrial sales of the **Permutit Company,** with headquarters at its main office in New York City. Mr. Saunders, who has been with the company for 17 years, was born in New York on August 23, 1897. Following his education in the public schools of New York and at Stevens Institute of Technology, and then service in the U. S. Naval Reserve during the war, he became connected with the U. S. Shipping Board in 1919. He entered the employ of the Permutit Company in February, 1920, as an assistant to the sales manager, and later became a sales representative and then assistant sales manager. He was holding this latter position at the time of his appointment as manager of railway and industrial sales.

American Brake Shoe and Foundry Company Annual Report

The American Brake Shoe & Foundry Company for the year ended December 31, 1936, reported a consolidated net income of $2,351,968, after all deductions including a $1,037,358 provision for depreciation. This compares with a 1935 net of $1,699,400 and is equal, after preferred dividends, to $2.95 per share on the outstanding common stock. The earnings per share on common in 1935 were $1.70, but the capital structure was last year reclassified in such a way as to reduce the preferred dividend rate from $7 to $5.25 per share.

The consolidated balance sheet as of December 31 shows total current assets of $11,232,399 including $3,079,055 in cash while total current liabilities amounted to only $1,612,400.

Stating that "frequently questions are asked as to the relationship of the current year's operations to the year 1929" the report explains that in 1936 the dollar sales were 65 per cent of those reported in 1929; the consolidated earnings plus the parent company's equity in earnings of controlled companies not consolidated amounted in 1936 to $2,402,552 and in 1929 to $4,468,367. Eliminating the Malleables Company, now dissolved, and the American Brakeblok Corporation, which was unimportant in 1929, the sales and administrative expense of all companies has been reduced by an amount in excess of $1.50 per share on the American Brake Shoe and Foundry common stock. Meanwhile outstanding preferred stock has been reduced from a 1929 figure of 95,385 shares to 93,955 last year and the common has dropped from 690,346 shares to 611,712.

The report notes substantial progress in the dissolution of controlled companies. The Southern Wheel Company and the American Forge Company are now operating as divisions of the parent company and the Racor Pacific Frog & Switch Company has been absorbed by the Ramapo Ajax Corporation. Also, plans are now being formulated to dissolve the American Manganese Steel Company and the American Brakeblok Corporation.

The consolidated income and surplus account as of the close of the past two years follows:

The American Brake Shoe and Foundry Company
(and Subsidiaries 95 Per Cent or More Controlled)

	1936	1935
Earnings before depreciation, income taxes and surtax on undistributed earnings	$3,527,925	$2,729,539
Dividends received from subsidiary companies not consolidated (Note 1).	274,261	107,518
Total	$3,802,186	$2,837,057
Less:		
Provision for depreciation	$1,037,358	$926,618
Provision for U. S. and foreign income taxes	401,360	211,039
Provision for U. S. surtax on undistributed earnings	11,500	.....
	$1,450,218	$1,137,657
Net income (Note 2)	$2,351,968	$1,699,400
Surplus beginning of year	9,403,677	9,297,468
Additions		
Profit on sale of plant and unused land—net.	15,694	.....
	$11,771,339	$10,996,868
Deductions		
Dividends paid—Cash:		
Preferred stock—$5.8334 per share in 1936, $7.00 per share in 1935	$549,229	$662,235
Common stock — $2.60 per share in 1936, $.80 per share in 1935	1,590,437	764,615
Surplus of subsidiary company no longer consolidated	.....	166,341
Treasury stock acquired —cost in excess of par	15,353	.....
Excess cost of minority interest, acquired during year—written off	139,582	.....
	$2,294,601	$1,593,191
Surplus end of year	$9,476,738	$9,403,677
Net income, after preferred dividends, per share of outstanding common stock	$2.95	$1.70

(1) Dividends received from subsidiary companies not consolidated are less than the company's proportion of their combined earnings by $50,584.44 in 1936 and are more than the company's proportion of their combined earnings by $116,542.22 in 1935.

(2) Without gain of $238,540.09 in 1936 and $104,442.45 in 1935 transferred to reserve for general contingencies, being the sum of or difference between the gain from revaluation to quoted market value at the end of the year of U. S. Government and marketable securities and the profit or loss for the year on sales of securities.

OBITUARY

Donald B. Rush, president of the Rush Roberts Engineering Company, Chicago, and until 1935 manager of the Cement and Concrete department of the Robert W. Hunt Company, died suddenly in that city on February 15 following a heart attack.

Robert W. Gotshall, general sales representative of the Caterpillar Tractor Company, Peoria, Ill., and a pioneer in the development of the track-type tractor and road building machinery, died on February 11, in St. Francis Hospital, Peoria, at the age of 55 years.

Edward M. Sexton, railroad sales manager of Air Reduction Sales Company, died on February 15, in New York, after an illness of several weeks. He was 56 years old. Mr. Sexton was born on Staten Island, N. Y., and was educated in the public schools there. Previous to his connection with Air Reduction, he was in the

Edward M. Sexton

sales department of Holt & Co., flour merchants, and the Western Electric Company, which he represented in Chicago and Denver, Colo. He began his career with Air Reduction as a salesman in the New York metropolitan district in 1916. Later he was appointed manager of the Chicago district, and from this position he was transferred back to New York as manager of the metropolitan district. When in 1922 the Davis-Bournonville Company's personnel was merged with that of Air Reduction, he was selected to manage the railroad sales department, with headquarters at New York.

TRADE PUBLICATION

AIRCO ACETYLENE.—The Air Reduction Sales Company, New York, has issued a 12-page booklet designed to show the relative efficiency and economy of acetylene for torch welding and cutting work, as compared with other fuel gases used in conjunction with oxygen. The booklet discusses flame temperatures, heating efficiency, B.T.U. heat values and oxygen consumption, and, in a clearly illustrative chart, shows the comparative oxygen—fuel gas requirements for making a specific cut through ½-in. steel plate employing acetylene, propane, natural gas and city gas.

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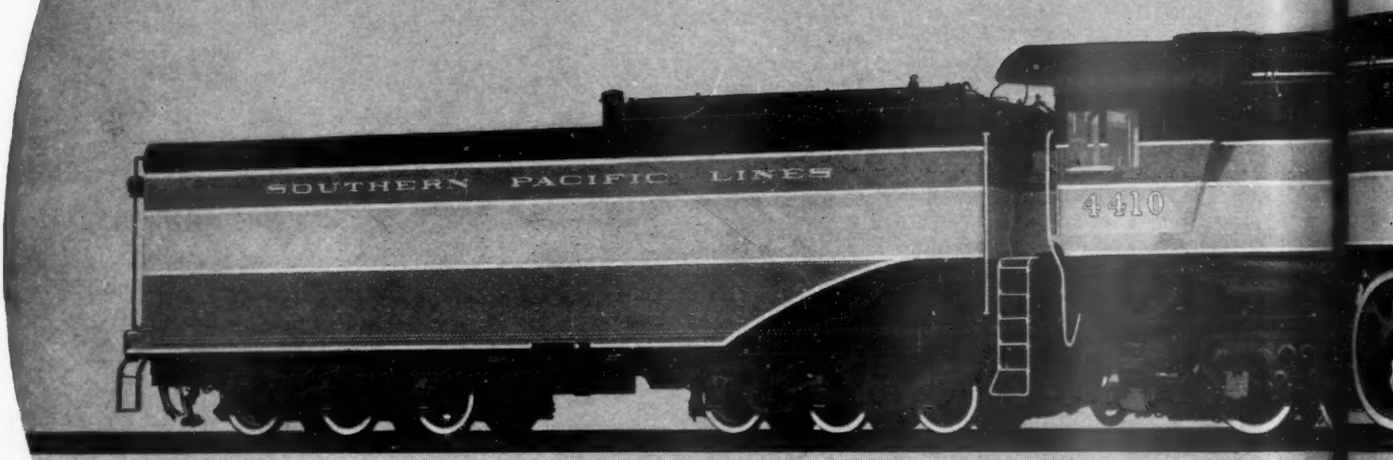
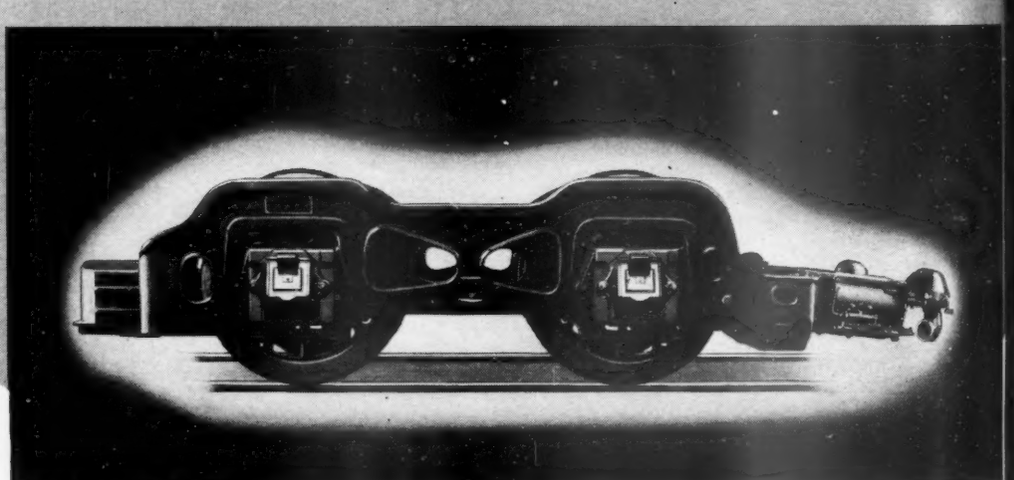
WHERE BOOSTER Starting Means Smooth Starting

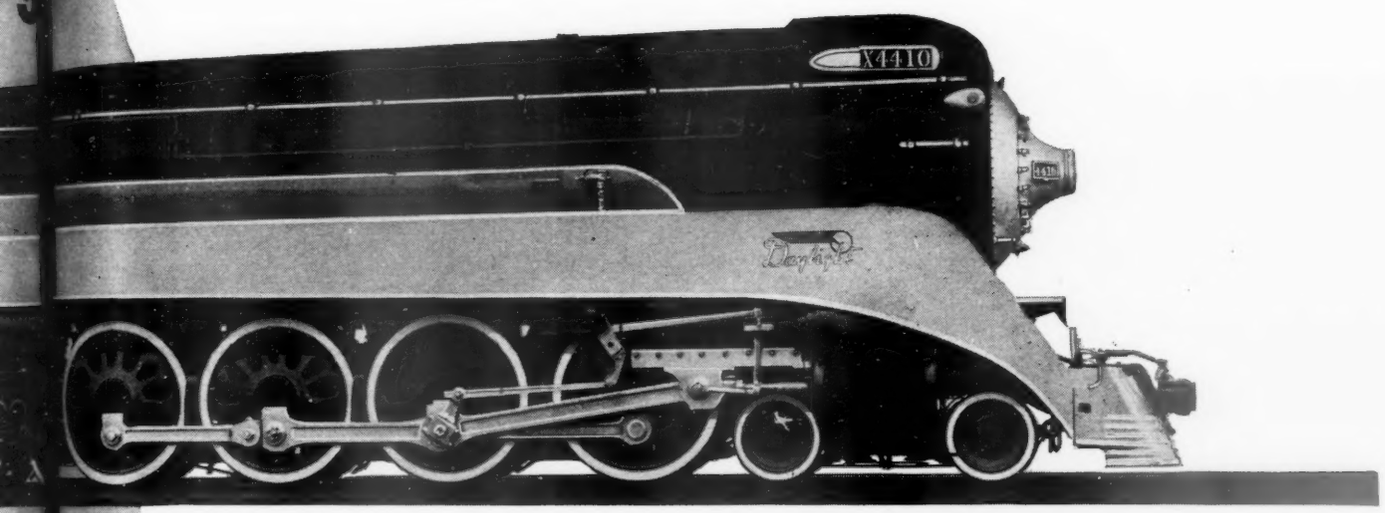




REG. U.S. PAT. OFF.

FRANKLIN RAILWAY

NEW YORK



The latest power of the Southern Pacific Company is designed to handle their new high-speed streamlined Daylight Specials operating between San Francisco and Los Angeles.

This train consists of twelve streamlined cars and embodies every comfort and convenience for the traveler.

The Locomotive Booster adds 12,510 pounds to the starting tractive effort of this locomotive and was incorporated in the design to insure smooth starting and rapid acceleration to road speeds.

SUPPLY COMPANY, INC.

CHICAGO MONTREAL

Financial

ATCHISON, TOPEKA & SANTA FE.—*Acquisition.*—Examiner Robert R. Hendon of the Interstate Commerce Commission, in a proposed report, has recommended that the commission authorize the Southern Kansas Stage Lines to acquire control of the Western Transit Company by purchase of capital stock, subject to the conditions that the Southern Kansas Stage Lines will promptly take such steps as are legally possible and necessary: (a) to merge the properties and operating rights of Western Transit Company into the Southern Kansas Stage Lines; (b) to dissolve Western Transit Company; and (c) to effect acquisition by the Atchison, Topeka & Santa Fe from the General Improvement Company of all interest which the latter owns in the Southern Kansas Stage Lines.

ATCHISON, TOPEKA & SANTA FE.—*Acquisition.*—Grover L. Swink, assistant chief, section of finance, bureau of motor carriers of the Interstate Commerce Commission, in a proposed report, has recommended that the commission authorize the Santa Fe Transportation Company to purchase the Kent Truck & Rigging Company, operating as a common carrier by truck in Southern California.

BALTIMORE & OHIO.—*Bonds.*—The Interstate Commerce Commission, Divison 4, has authorized this company to issue $2,941,000 of refunding and general mortgage 6 per cent bonds, series E, upon deposit with the trustees of that mortgage of $2,941,000 of Pittsburgh, Lake Erie & West Virginia system refunding mortgage 4 per cent bonds, all or any part of said bonds to be pledged and repledged from time to time, to and including June 30, 1939, as collateral security (a) for any short term note, (b) in substitution for or in equalization of existing collateral under existing loans maturing within two years, (c) for loans maturing more than two years from date, and (d) for loans in respect of which the company has assumed obligation as guarantor, under authority of the commission, or (e) for several of these purposes. The bonds will bear interest at the rate of 6 per cent, payable semi-annually on April 1 and October 1, and will be redeemable as a whole at the option of the company on or after April 1, 1942, at 105, and will mature April 1, 2000. The commission has also authorized this company to issue $2,941,000 of Pittsburgh, Lake Erie & West Virginia system refunding mortgage 4 per cent bonds upon deposit with the trustees of that mortgage of $2,941,00 of Ohio River Railroad Company general mortgage 5 per cent bonds or the cash equivalent, said bonds to be pledged under the company's refunding and general mortgage. These bonds will bear interest at the rate of 4 per cent, payable semi-anually on May 1 and November 1, and will be redeemable at the option of the company on any interest payment date at par, and will mature November 1, 1941. The company does not propose to sell any of the bonds to the public at this time.

CHICAGO & NORTH WESTERN.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized the trustee to abandon the part of the Kasota branch of this company extending from Burdette, Minn., to Breen's Spur, Kasota, 4.8 miles.

CHICAGO & EASTERN ILLINOIS.—*Reorganization Plan.*—An amended plan of reorganization was filed with the Interstate Commerce Commission and the federal district court at Chicago, on February 16, under which a new company would be created to take over the property of the present company, and control would be vested in a board of 13 directors, 5 to be named by the chairman of the board of the old company, 3 by the chairman of the general mortgage bondholders committee, and 3 by the Reconstruction Finance Corporation. The amended plan is similar in several respects to that filed last January, and described in the *Railway Age* of January 18, 1936, page 162.

The new plan provides for the settlement of obligations as follows: Certificates of indebtedness, issued by the trustee, amounting to $201,000, will be paid in cash. All equipment trust obligations, including those issued by the trustee and amounting to $1,586,000, will be assumed by the new company. The $142,000 of Evansville Belt first mortgage 5 per cent bonds will be assumed by the new company. The $2,736,000 of first consolidated mortgage 6 per cent bonds outstanding will be paid off in cash, together with accrued interest at the rate of 4 per cent from the year of maturity to the date of payment. The $1,745,449 indebtedness to the Railroad Credit Corporation will be paid off in cash, with accrued interest.

Capitalization of the new company will be:

1. $15,000,000 of 4 per cent prior lien bonds, of which $10,959,000 will be issued to the Reconstruction Finance Corporation.
2. $15,354,500 of convertible 5 per cent income bonds, which will be convertible into common stock on the basis of one share for each $25 face amount of bonds, the issue to mature in 1996.
3. 383,862½ shares of preferred stock, $40 par, entitled to dividends of $2 annually, if earned.
4. 353,686½ shares of common stock, no par. Sufficient additional shares will be authorized for the conversion right of income bonds.

The exchange of present securities will be as follows:

1. $5,760,868 due the Reconstruction Finance Corporation secured by the pledge of $7,852,700 of the old prior lien bonds, will be exchanged for prior lien bonds, series A, of the new company in amount equal to 100 per cent.
2. Holders of general mortgage bonds, of which there are $30,709,036 principal amount outstanding, will receive 50 per cent of the par value of their bonds in 5 per cent convertible income bonds; 50 per cent in $40 par 5 per cent preferred stock and in addition 1¾ shares of no par value common stock for each $1,000 bond.
3. Preferred stock (6 per cent, $100 par), of which there are 220,461 shares outstanding, will be exchanged share for share for the new company's common stock.
4. Common stock, of which there are 238,453 shares outstanding ($100 par), will be exchanged at the rate of three shares for one share of the new company's common stock.

CHICAGO, BURLINGTON & QUINCY.—*Acquisition.*—Examiner Robert R. Hendon of the Interstate Commerce Commission, in a proposed report, has recommended that the commission authorize the Burlington Transportation Company to purchase the property and operating rights of the Sand Motor Express Company, operating as a common carrier by truck in Southern Iowa and Southern Illinois.

CHICAGO, BURLINGTON & QUINCY.—*Collateral Trust Notes.*—This company has applied to the Interstate Commerce Commission for authority to issue $7,000,000 of 2¼ per cent serial collateral trust notes, Series A to J, maturing on December 1 from 1937 to 1946. The company has also asked authority to pledge $7,873,000 of general mortgage 4 per cent bonds as collateral security for the notes. This issue is being offered in place of $7,080,000 of equipment trust certificates which have been withdrawn.

CHICAGO HEIGHTS TERMINAL TRANSFER RAILROAD.—*Bonds.*—The Interstate Commerce Commission, Division 4, has authorized this company to issue $562,000 of first mortgage 4 per cent bonds, to be exchanged at par for a like amount of first mortgage 6 per cent gold bonds. Series A, now outstanding. The bonds will bear interest at the rate of 4 per cent, payable semi-annually on March 1 and September 1, and will be redeemable at the option of the company, as a whole but not in part, on any interest payment date at 104, and will mature March 1, 1967.

CINCINNATI, NEWPORT & COVINGTON.—*Bus Certificate Recommended.* — Joint Board No. 37 has recommended to the Interstate Commerce Commission in a proposed report that this company be granted a certificate authorizing it to operate as a common carrier of passengers by motor vehicle in interstate commerce between South Newgate and Newport, Ky., and Cincinnati, Ohio, but that the commission find that it is not operating in interstate commerce within Cincinnati and therefore that its applications for determination of status and exemption from the motor carrier act as provided in Section 203 be denied.

CLINCHFIELD.—*Equipment Trust.*—Salomon Brothers & Hutzler, Dick & Merle-Smith and Stroud & Co. have offered $1,815,000 of 2¼ equipment trust certificates of this company, maturing 1938-52, priced to yield 0.75 to 2.85 per cent.

CONCHO, SAN SABA & LLANO VALLEY.—*Abandonment.*—Examiner J. S. Prichard of the Interstate Commerce Commission, in a proposed report, has recommended that the commission authorize this company to abandon, and the Gulf, Colorado & Santa Fe to abandon operation of the line, extending from Miles, Texas, to Paint Rock, 16.74 miles.

COLORADO & SOUTHERN.—*Abandonment.*—Examiners R. R. Molster and Jerome

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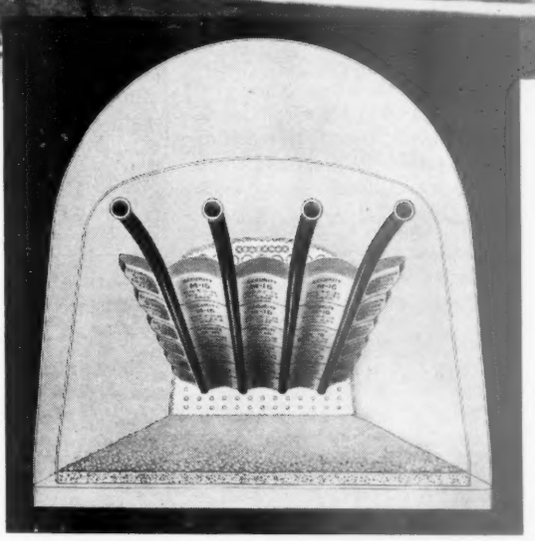
NO. 3 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

ARCH OF SEPTIMIUS SEVERUS
ROME, A. D. 203

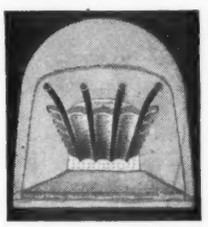
On the northeast side of the Roman Forum is the Arch of Septimius Severus. This arch commemorates the Arabian campaign. It was erected in his honor and in that of his sons, Caracalla and Geta, in A. D. 203. It is still ornamented with sculptures which are legible except those of the cornice. The Arch has three passageways connected by transverse openings. On each facade of the column bases Roman soldiers with barbarian prisoners are shown in relief. On the side facing the Capitol are shown various scenes of the campaign. Similar scenes are carved on other sides, but are now badly defaced.



The Security Sectional Arch was one of the first successful efforts to improve locomotive economy and effectiveness. It has had a major influence on locomotive design, in increasing fuel economy and boiler capacity.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists » » »

K. Lyle of the Interstate Commerce Commission, in a proposed report, have recommended that the commission authorize this company to abandon a part of its Clear Creek lines extending from Idaho Springs, Colo., to Silver Plume, 16.6 miles. The proposed report also recommends that the commission refuse to authorize the abandonment of lines between Idaho Springs, Colo., and Golden; and between Forks Creek, Colo., and Black Hawk.

DULUTH, MISSABE & NORTHERN.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $3,780,000 of 2½ per cent serial equipment trust certificates, maturing on March 1 from 1938 to 1952.

ELGIN, JOLIET & EASTERN.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $2,250,000 of 2½ per cent equipment trust certificates, maturing in 15 equal annual installments on March 1, from 1938 to 1952.

GAINESVILLE MIDLAND.—*Acquisition.*—The Interstate Commerce Commission, Division 4, has authorized the Gainesville Midland Railroad to acquire the properties of the Gainesville Midland Railway and to issue 4,140 shares of common stock in exchange for certain securities of the Railway company in furtherance of a reorganization of that company. The commission has also approved the application of the Railroad company for a loan of $98,805 from the Reconstruction Finance Corporation.

GREAT NORTHERN.—*Equipment Trust.*—Evans, Stillman & Co. and two associated firms have offered $4,650,000 of series E 2 per cent equipment trust certificates of this company, maturing 1938-47, priced to yield from 0.75 per cent to 2.5 per cent.

KANSAS CITY, KAW VALLEY & WESTERN.—*Reorganization.*—The Interstate Commerce Commission, Division 4, has approved an amended plan for reorganization of this road.

KANSAS CITY SOUTHERN.—*Couch Acquires Interest.*—Harvey C. Couch, chairman of the board of the Louisiana & Arkansas, has acquired a "substantial" proportion of the controlling interest in the company held by Paine, Webber & Co., it was announced in New York on February 16.

MISSOURI PACIFIC.—*Acquisition.*—Guy A. Thompson, trustee, has applied to the Interstate Commerce Commission for authority for the M. P. to lease and purchase the Boonville, St. Louis & Southern, title to which is held by him as trustee. The commission was asked to fix the lease and purchase price.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $840,000 of 2¼ per cent serial equipment trust certificates, maturing in 15 annual installments on March 1, from 1938 to 1952.

NEW YORK, CHICAGO & ST. LOUIS.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $2,330,000 of 2¼ per cent equipment trust certificates, maturing in 10 equal annual installments on March 1 from 1938 to 1947. Salomon Brothers & Hutzler, Dick & Merle-Smith and Stroud & Co. have offered the certificates at prices to yield 1 to 2.8 per cent.

NEW YORK, NEW HAVEN & HARTFORD.—*Abandonment.*—The trustees have applied to the Interstate Commerce Commission for authority to abandon the line of the Chatham Railroad extending from Harwich, Mass., to Chatham, 7.7 miles.

ST. LOUIS-SAN FRANCISCO.—*Abandonment.*—Examiner W. J. Schutrumpf of the Interstate Commerce Commission in a proposed report has recommended that the commission authorize the trustees of this company to abandon the St. Paul branch, extending from Fayette Junction, Ark., to Pettigrew, 40.9 miles.

ST. LOUIS-SAN FRANCISCO.—*Salary of Trustee.*—The Interstate Commerce Commission, Division 4, has issued an order increasing the salary of John G. Lonsdale, co-trustee, from $18,000 to $25,000, beginning as of January 1, 1937.

SAVANNAH & ATLANTA.—*Reorganization.*—The Interstate Commerce Commission has announced that public hearings on the reorganization of this company will be held before Examiners R. T. Boyden and C. A. Bernhard at Washington, on March 11.

SOUTHERN.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon a branch line extending from Vasper, Tenn., to La Follette, 10.3 miles.

UNION PACIFIC.—*Acquisition.*—The Interstate Transit Lines, the Interstate Transit Lines, Inc., and the Union Pacific Stages of California have applied to the Interstate Commerce Commission for authority to purchase the Burlington Transportation Company. The purchase price will be 54,447 shares of Interstate Transit Lines common stock with a par value of $10 a share.

UNION PACIFIC.—*Bus Certificates Recommended.*—Examiner R. J. Olentine, of the Interstate Commerce Commission, has recommended in a proposed report that a certificate be issued to the Union Pacific Stages, Inc., authorizing it to continue operations as a common carrier by motor vehicle of passengers, baggage, mail, express, and newspapers over specified routes between points in Utah, Idaho, Montana, Oregon, and Washington, by reason of having been engaged in such operations on June 1, 1935, and continuously since that time. Examiner W. T. Croft in a similar report has also recommended issuance of a certificate to the Union Pacific Stages of California authorizing operation as a common carrier between Los Angeles, Calif., and a point on the California-Nevada state line east of Wheaton Springs.

Average Prices of Stocks and Bonds

	Feb. 16	Last week	Last year
Average price of 20 representative railway stocks..	56.25	56.60	49.96
Average price of 20 representative railway bonds..	83.95	84.38	81.40

Dividends Declared

Chesapeake Corporation.—75c, quarterly, payable April 1 to holders of record March 8.

Chesapeake & Ohio.—70c, quarterly; Preferred Initial, $1.00, quarterly, both payable April 1 to holders of record March 8.

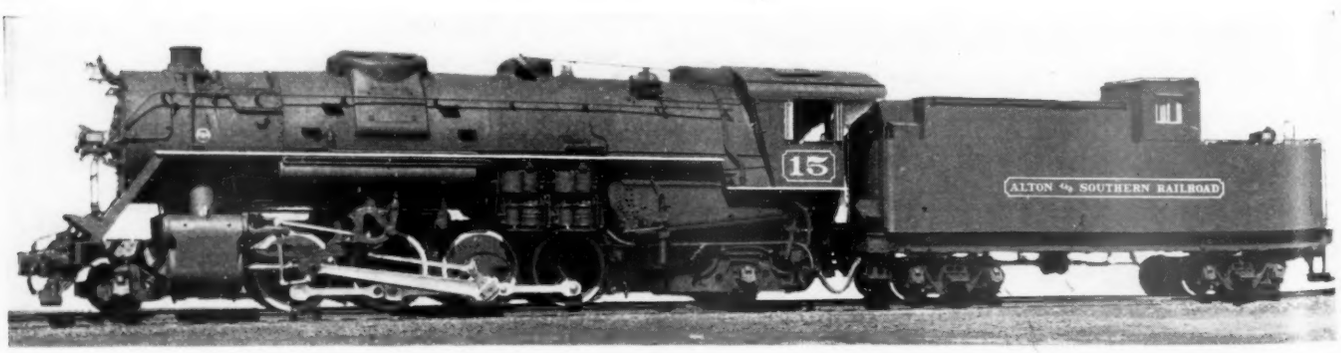
Cincinnati, New Orleans & Texas Pacific.—5 Per Cent Preferred, $1.25, quarterly, payable March 1 to holders of record February 15.

Delaware & Bound Brook.—$2.00, quarterly, payable February 20 to holders of record February 16.

Philadelphia, Germantown & Norristown.—$1.50, payable March 4 to holders of record February 20.

Reading Company.—50c, quarterly, payable May 13 to holders of record April 15; 2nd Preferred, 50c, quarterly, payable April 8 to holders of record March 18.

* * * *



Mikado Type Locomotive Having 64,300 Lb. Tractive Force Built for the Alton & Southern by the Baldwin Locomotive Works

Continued on next left-hand page

The *New* Southern Pacific Company's 4-8-4 type locomotives

are equipped with

TYPE "E" SUPERHEATERS

TANGENTIAL STEAM DRYERS

AMERICAN MULTIPLE-VALVE THROTTLES

ELESCO

PROPER SUPERHEATER FOR THE BOILERS

The application of type "E" superheaters to the boilers will result in an increase in evaporative capacity and superheat . . . effecting a large increase in the drawbar horsepower, per pound of weight, of the locomotives.

THE SUPERHEATER COMPANY

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AMERICAN THROTTLE COMPANY, INC.
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A-1131

Superheaters • Feed Water Heaters • Exhaust Steam Injectors • Superheated Steam Pyrometers • American Throttles • Tangential Steam Dryers

Railway Officers

EXECUTIVE

Fitzpatrick Named Chairman of C. & O. and P. M.

Herbert Fitzpatrick, president of the Midamerica Corporation, top holding company in the so-called Van Sweringen group, has been elected chairman of the board of the Chesapeake & Ohio and the Pere Marquette, neither of which company has heretofore had a chairman of the board. A detailed biographical sketch of Mr. Fitzpatrick was published in the *Railway Age* of December 12, 1936, page 873, in connection with his election as president of the Midamerica Corporation. He is also vice-president (law) of the C. & O. and the P.M. and holds executive posts with other Van Sweringen lines.

John E. Tilford, chairman of the Southern Freight Association, Atlanta, Ga., has been appointed to the newly-created position of assistant vice-president of the Louisville & Nashville, with headquarters at Louisville, Ky.

FINANCIAL, LEGAL AND ACCOUNTING

F. L. Schepler, assistant to the general freight claim agent of the Baltimore & Ohio, has been appointed general freight claim agent, with headquarters as before at Baltimore, Md., succeeding **C. C. Glessner,** deceased.

OPERATING

J. E. Davis, trainmaster on the Union Pacific at Salt Lake City, Utah, has been transferred to Pocatello, Ida., to succeed **C. D. Waring,** who in turn has been transferred to Salt Lake City, to replace Mr. Davis.

A. J. Lomas, yardmaster on the Canadian National with headquarters at Gravenhurst, Ont., has been appointed acting assistant superintendent of the Capreol division, with headquarters at Capreol, Ont., to replace **S. J. Faught,** who is on sick leave.

J. H. Murray, marine inspector for the Baltimore & Ohio, has been appointed superintendent of floating equipment, with headquarters as before at New York. In the *Railway Age* of February 6, when Mr. Murray's appointment was originally announced, his name was given erroneously as James S. Murray.

W. J. McWhorter, superintendent of the Nashville and the Paducah & Memphis divisions of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn., has been promoted to the newly-created position of assistant general manager, with the same headquarters. **M. O. Armstrong,** trainmaster of the Nashville division, has been promoted to superintendent of the Nashville and the Paducah & Memphis divisions, to succeed Mr. McWhorter. **T. J. Hale** has been appointed trainmaster on the Nashville division, to replace Mr. Armstrong.

H. R. Younger, division engineer of the Canadian Pacific, with headquarters at Nelson, B. C., has been appointed acting superintendent of the Kettle Valley division, with headquarters at Penticton, B. C., succeeding **W. J. McLean,** who has been given a leave of absence on account of illness.

Herman H. Larson, whose appointment as superintendent of the Southwestern district of the Union Pacific, with headquarters at Los Angeles, Cal., was reported in the *Railway Age* for February 6, has been in the service of this company for more than 36 years. He was born on January 2, 1882, at Harlan, Iowa, and entered the service of the Union Pacific on September 25, 1900, as a switchman. Three years later he was advanced to assistant yardmaster and in 1909 he was further promoted to yardmaster. Seven years later Mr. Larson was made general yardmaster and in 1922 he was appointed terminal trainmaster, being appointed trainmaster in 1931. Two years later he was appointed a special representative of the executive vice-president, which position he held until his recent appointment as superintendent of the Southwestern district, which was effective on February 1.

Leon B. Kendall, assistant superintendent of the Madison division of the Chicago & North Western, whose appointment as superintendent of telegraph with headquarters at Chicago was noted in the *Railway Age* of February 13, was born on November 26, 1888, at Pompanoosuc, Vt. Mr. Kendall received his higher education at Dartmouth College, graduating with the class of 1910. On August 17, 1910, he entered the service of the Chicago & North Western as a telegrapher on the Dakota division, being advanced to train dispatcher in 1911 and chief train dispatcher at Huron, S. D., in 1918. On September 5, 1925, Mr. Kendall was appointed trainmaster at Boone, Iowa, and served in a similar capacity at West Chicago, Sterling, Ill., and Madison, Wis. He was advanced to assistant superintendent of the Madison division, with headquarters at Winona, Minn., on August 6, 1936, which position he was holding at the time of his recent promotion to superintendent of telegraph, which was effective on January 20.

Leon B. Kendall

Peter J. Coliton, whose appointment as superintendent of the Dakota division of the Great Northern, with headquarters at Grand Forks, N. D., was reported in the *Railway Age* of January 30, has been connected with this company for nearly 30 years. He was born on February 11, 1889, at Grand Forks, and entered railway service with the Great Northern in June, 1907, as a brakeman on the Dakota division with headquarters at Larimore, N. D. Three years later he was transferred to the Butte division, with headquarters at Great Falls, Mont., and in 1911 he was advanced to conductor on the Dakota division at Grand Forks. Three years later Mr. Coliton was promoted to yardmaster at Devils Lake, N. D., and in 1916 he was further advanced to trainmaster on the Breckenridge division, with headquarters at New Rockford, N. D. Since 1920, he had been a trainmaster on the Willmar division at Willmar, Minn.

Peter J. Coliton

TRAFFIC

Joseph A. Farmar, chairman of the Trans-Continental Freight Bureau, Chicago, has been appointed chairman of the Western Trunk Line Committee, Chicago, effective March 1, succeeding **E. B. Boyd,** who will retire on that date.

J. L. McVay, who has been appointed general freight agent, solicitation, of the Chicago, Rock Island & Pacific, with headquarters at Chicago, as announced in the *Railway Age* of February 13, has been in the service of this company for more than 23 years. He was born on January 12, 1894, at Indianola, Iowa, and first entered railway service with the Chicago, Burlington & Quincy as a telegraph operator during summer vacations. For a short time he worked for the Western Union as a telegraph operator and for the St. Paul & Des Moines (now part of the Rock Island) in the same capacity. On December 10, 1913, Mr. McVay entered the service of the Rock Island as an operator and worked at various points in this capacity and as an agent until December, 1920,

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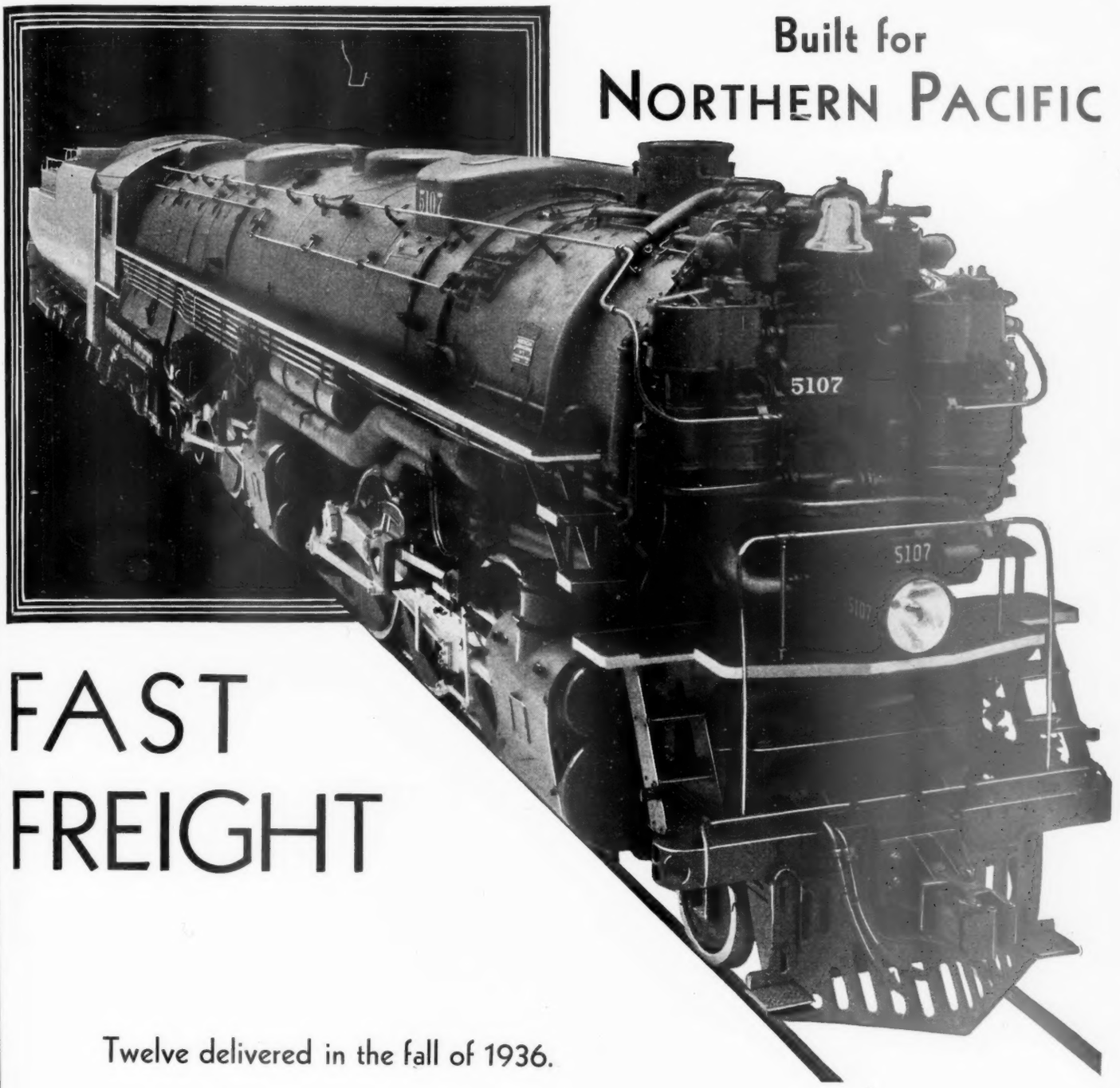
Built for NORTHERN PACIFIC



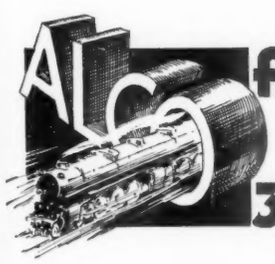
FAST FREIGHT

Twelve delivered in the fall of 1936.

Nine more now under order.

NEW POWER - NEW PROFITS

Type,	4-6-6-4
Weight on Drivers,	435,000 pounds
Weight of Engine,	624,500 pounds
Cylinders,	23 x 32 inches
Diameter of Drivers,	69 inches
Boiler Pressure,	250 pounds
Maximum Tractive Power,	104,500 pounds



AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET · NEW YORK · N·Y

when he became a rate clerk in the office of the division freight agent, at Des Moines, Iowa. He served successively as a rate clerk, chief clerk and city freight agent until December, 1922, when he was appointed traveling freight agent at Des Moines. On January 1, 1930, he was appointed division freight agent at Peoria,

J. L. McVay

which position he held until his recent promotion to general freight agent, solicitation, which was effective on February 16.

ENGINEERING AND SIGNALING

C. H. Brodbeck, division engineer of the Paducah & Memphis division of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn., has been promoted to senior assistant engineer with the same headquarters. **J. M. Ryan,** division engineer of the Nashville division at Nashville, has had his jurisdiction extended to include the Paducah & Memphis division.

MECHANICAL

W. D. Dickie, general foreman, motive power and car department, on the Canadian Pacific, with headquarters at Moose Jaw, Sask., has been appointed division master mechanic, with headquarters at Calgary, Alta., to succeed **J. W. McKinnon,** who has been transferred to Edmonton, Alta., to replace **D. M. Smith.** Mr. Smith has been transferred to Winnipeg, Man., to succeed **G. Moth,** who has retired.

PURCHASES AND STORES

O. A. Schultz, chief lumber inspector of the Chicago, Burlington & Quincy with headquarters at Chicago, has been appointed Pacific Coast lumber agent, with headquarters at Seattle, Wash., to succeed **A. E. Campbell,** who will retire under the pension rules of the company, on March 1. **E. J. Clark,** storekeeper at Sheridan, Wyo., has been promoted to chief lumber inspector at Chicago, to succeed Mr. Schultz.

SPECIAL

Dr. E. F. Yancey, medical director of the Missouri-Kansas-Texas, with headquarters at Sedalia, Mo., retired on February 1 at the age of 78 years after 52 years of continuous service with the Katy.

OBITUARY

Thomas F. Brennan, assistant to vice-president of the Baltimore & Ohio, with headquarters at Rochester, N. Y., died in that city on February 14. He was 77 years old. Mr. Brennan was born on August 14, 1859, at Rochester, N. Y., and entered railroad service in 1878, as telegraph operator for the New York Central & Hudson River (now part of the New York Central). He served successively from 1884 to 1916 as train dispatcher, car distributor, general car agent, superintendent transportation, general superintendent and general manager with the Buffalo, Rochester & Pittsburgh. From 1916 to 1918, he was vice-president of that road and from 1918 to March, 1920, served as federal manager during federal control of the railroads. In March, 1920, he resumed the vice-presidency of the Buffalo, Rochester & Pittsburgh, and when that road was acquired by the Baltimore & Ohio he was made assistant to the vice-president of the latter.

Walton O. Wright, passenger traffic manager of the Boston & Maine and the

Walton O. Wright

Maine Central, with headquarters at Boston, Mass., and Portland, Me., died at his home in Lynn, Mass., on February 15 at the age of 46 years. Mr. Wright was born at Lynn, Mass., on June 8, 1890, and entered railway service on October 13, 1910, as a messenger in the freight traffic department of the Boston & Maine. He later served as a file clerk, general clerk, rate clerk, tariff compiling clerk, traveling freight agent and special assistant to the foreign freight agent. On May 1, 1920, Mr. Wright left railway service to become transportation manager of the Associated Industries of Massachusetts, re-entering railway service again on November 1, 1923, as assistant general freight and passenger agent for the Boston & Maine, with headquarters at Portland, Me. He was promoted to general passenger agent early in 1925 and in June, 1930, he was promoted to passenger traffic manager of the Boston & Maine, being appointed to a similar position on the Maine Central in April, 1933.

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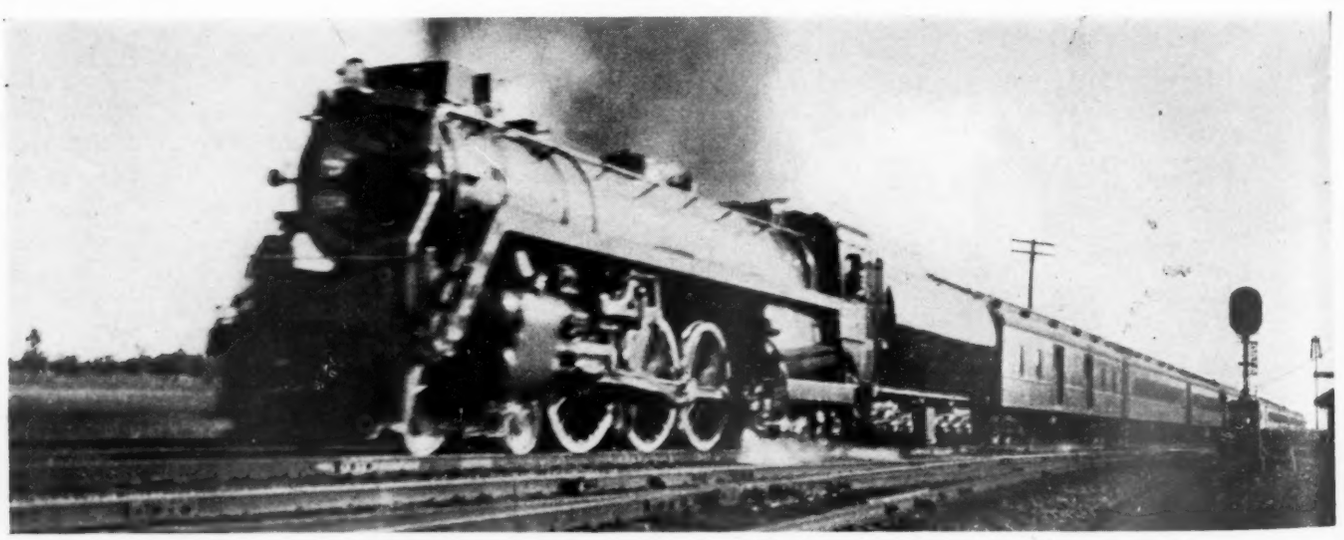

Canadian Pacific-Canadian National Pool Train at Scarboro Jct., Ont.